The East Midlands Study

East Midlands Economic Planning Council

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Preface

This report on the East Midlands Economic Planning Region has been prepared by the East Midlands Economic Planning Council, who have been greatly assisted by the East Midlands Economic Planning Board. The expressions of view and suggestions for government action set out in this Study are those of the Council.

The report is being published so as to enable all those concerned with the problems of planning in the Region to express their views on the findings contained in it. These should be communicated, in writing, to the Secretary, East Midlands Economic Planning Council at Department of Economic Affairs, Cranbrook House, Cranbrook Street, Nottingham.

The estimates of forecasts contained in this report were completed by June 1966. They do not, therefore, take account of any likely effects arising from the economic measures announced by the Prime Minister on 20th July. Although these measures are expected to have considerable effects on certain elements of the economic analysis in the short run, their effect in the longer term should not be such as to invalidate the broad picture shown.

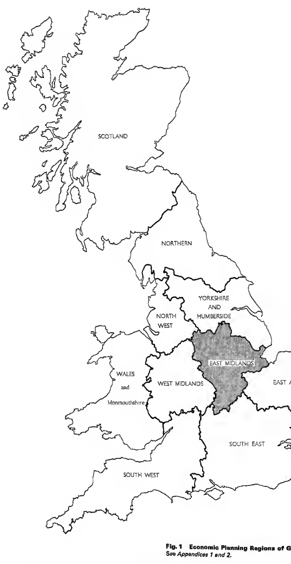

Fig. 1 Economic Planning Regions of Great Britain
See *Appendices 1 and 2.*

Foreword

This Study of the East Midlands has no pretensions to being a 'Regional Plan'. It is, instead, an attempt to present to the public an account of the Region as it is, and as it is changing; it draws attention to problems and opportunities, with an indication of what is involved in them. It is hoped that the Study will form an adequate basis for the public discussion out of which the main lines of the Region's planning will emerge; until adequate opportunity for that discussion has been provided it would be presumptuous to go further.

The prosperity of the East Midlands is closely intertwined with that of the country as a whole, and although such a Study as this, with its concentration on particular aspects, may seem inward-looking, its primary purpose must be to ensure that the Region makes its maximum contribution to national prosperity. It will only do so if its own economy remains vigorous and well balanced, but its demands on national resources, like its contribution to them, must be related to those required for the well-being of other regions too. Any plans for this Region will have to be integrated with plans for those regions and for the country as a whole.

The general conclusion must be that the East Midlands is a prosperous Region, and that it can with reasonable planning be expected to remain so; it has much potentiality for further development, and one of the recommendations is that more attention should be given to the possibilities of the industrial belt running from Nottingham and Derby to Sheffield. This area is however only the most obvious of several with considerable industrial potential, and detailed examination of all of them is desirable as regional planning develops.

Perhaps the most important problem facing us is the expected expansion of the population of the United Kingdom between now and the end of the century; it is a reasonable conclusion that the East Midlands can accommodate its own share of the increase—though there will be problems to solve and decisions to make—but the Region might also provide further opportunities for assisting areas already more congested. This must depend on national planning and on decisions by the central government; this Study is intended to contribute to national thinking, by indicating something of the potentialities of the Region and the factors involved in realising them.

The Study has largely been prepared by the Regional Economic Planning Board with the advice and help of the Regional Economic Planning Council as the work progressed. It could only however have been compiled with the assistance which has been very freely given by everyone who has been approached—local authorities, large and small, nationalised industries and public utility undertakings, very many private firms and the trade associations. This very generous co-operation is a good augury for the work that lies ahead. Here then is the picture of our Region; we must go on to decide together what we are going to do with this inheritance before we pass it on to our children and successors.

G. E. Daaring, CBE, JP
Chairman, East Midlands Economic
Planning Council

1 Introduction

The Region and its People

1. The East Midlands is a Region of opportunity, an area with potentialities which have not been fully exploited. Despite the highly developed cities and towns within its borders, it has remained a comparatively under-populated enclave in the great arc of conurbations formed by London, Birmingham, Lancashire and West Yorkshire. The Region comprises the administrative counties of Derbyshire (except the north-western corner), Leicestershire, Lincolnshire (the Parts of Holland and the Parts of Kesteven), Northamptonshire, Nottinghamshire and Rutland, together with the county boroughs of Derby, Leicester, Lincoln, Northampton and Nottingham. (See General Reference Map in pocket and Figure 1.) It is inhabited by some 3¼ million people.

2. Although the Region is 'comparatively under-populated' and contains wide stretches of open countryside, more than half its people live in the two counties of Nottinghamshire and Derbyshire where major transport routes converge; and the great majority of the 3¼ million are definitely townsfolk. The Region indeed owes much of its character to the great variety of its towns; even the largest among them differ very much one from the other not only superficially but in their industries and economic organisation. The chief thing they have in common is that it is a long time since any of them has known serious unemployment. It is this rather than the wage-levels, which are not particularly high compared with national levels, that has produced a basic optimism. The Region has rather less old people and rather more children per family than the country as a whole, but job opportunities for young people seem to have created a certain reluctance to keep as many of them at school as in, say, the regions to the south. The absence of a conurbation with its attendant congestion has produced less of the clearance and rehousing problems than in surrounding regions; but the fact that the Region suffered relatively little damage during the second world war means that it has retained more obsolescent buildings than less fortunate areas, and has had fewer of the new and exciting developments in town planning. Home-ownership, a significant index of the fact and feeling of security, has increased remarkably over the last twenty years. The stability of the Region's economy, based on a highly varied industry, has been evident in the past and is likely to be maintained.

The Study

3. This Study has been undertaken as a first step towards two ends: firstly, to establish the contribution the Region could and should make to the life of the country during the rest of the century; and secondly, to determine what policies would be most effective in satisfying the aspirations of its own people.

4. The first and basic assumption of the Study —the only assumption upon which a Study of this type could have value—is that the communal life of the Region will go on evolving from its present shape and that such changes as are coming can reasonably be foreseen in main outline at least by a study of the present.

5. Secondly, it is assumed that the country will avoid the extreme variations of trade cycles by applying what has been learned of the techniques of economic control.

6. The basic assumption involves, among other things, an expectation that people will go on demanding, and striving for, an improving standard of life, and that our science and technology will continue to advance in a way which will make this possible. Among the changes which can reasonably be foreseen is

the expected great increase in population in this country by the end of the century.

7. On the basis of these assumptions the chief questions requiring answers are

a Whether the industrial structure and industrial prospects of the Region are such that the present high levels of employment can reasonably be expected to persist.

b Whether, even granted that the people are and will continue to be almost fully employed, the range and make-up of industry provide, and will continue to provide, as high a level of wealth as our technical knowledge makes possible.

c Whether it is possible to identify those elements in our environment which are deterrents to the satisfaction of human needs or to industrial efficiency.

d What other changes are needed in our environment to accommodate the growing population expected and maintain or improve the standard of life and amenity for that population.

e Whether if the Region is asked to take more than its proportionate share of population growth there are natural or practical limits beyond which the standard of life and amenity would be endangered.

8. All these questions, except one aspect of the last, arise from the Region itself, but at least equally vital is the relation the answers must have to the Region's contribution to national efforts to the same ends. No one expects to provide comprehensive answers to all these wide questions, but it is hoped that this Study will at least go some way towards doing so.

9. The very absence from the Region of a city of great size has permitted the continued independent existence of a large number and great variety of free-standing towns. (See Figure 2.) Their interests interlock in a complicated fashion, but no one community dominates the others. In economic terms the Region has more resemblance to, and more links with, the West Midlands and the South East than with other regions; but some of its problems, because of the absence of a major conurbation, are sharply distinguished from theirs, and national policies do not therefore affect development in quite the same way. It is this which makes the East Midlands a suitable unit for regional organisation and for such a Study as this.

10. One of the main characteristics of the Region is the diversity produced by separate development of many different communities; the Region's boundaries, however clear-cut on the map, do not represent well-defined limits in human or economic terms. Both these facts have a bearing on this Study. The boundary problem has been the more difficult. Almost all the important past statistics were based on the North Midland Standard Region, which was larger than the East Midlands Economic Planning Region because it included also the Parts of Lindsey and the Soke of Peterborough. When Regional Economic Planning Councils were set up in 1964–65 it was decided that the development of Humberside was likely to be so important that both banks of the Humber should be in one region. The Soke of Peterborough was, under a local government reorganisation, amalgamated with Huntingdonshire, and it was decided that the whole of the new county should also be in one region. (The composition and population of the Economic Planning Regions is shown in Appendix 1.) It was of course realised that these decisions would cause some difficulties in using past figures for this and similar studies, and it has indeed not been found practicable to re-analyse all these statistics on the new basis. For many purposes this does not matter a great deal, because in many ways Lindsey and Peterborough had much in common with other places in the East Midlands. The figures may not be quite right for the East Midlands, but the conclusions to be drawn from them may still be valid in most respects. We have done the best we could on this. It will be appreciated, however, from what is said above, that many problems are common to parts of this and neighbouring regions, and that inter-regional co-operation will be required for many purposes.

11. The question of diversity within the East Midlands has been dealt with by dividing the Region up into four sub-regions, and these sub-regions again, for a very limited number of purposes, into much smaller districts. (See Figure 3.) It must be said at once that there is no suggestion that either the sub-regions or the districts are necessarily suitable for administration or for any other purpose whatever except ease of understanding a problem. The four sub-regions are based primarily on the industrial structure of the Region, but, because our understanding of them must be based on figures, we have followed local authority boundaries since these are the guiding lines when figures are compiled. The precise divisions will be found in Appendix 3, but broadly speaking the sub-regions are:

a the big industrial and mining complex of Nottinghamshire–Derbyshire;

b Leicester and the industrialised areas of Leicestershire, including the West Leicestershire coalfield;

c Northamptonshire, with its own traditional industry, and its present problems of expansion;

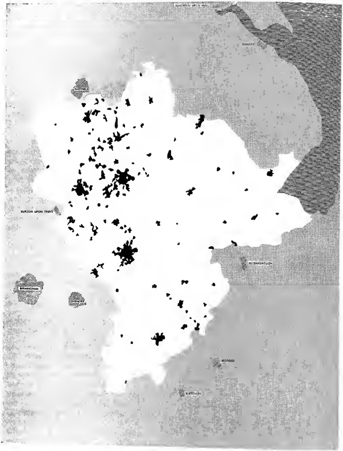

Fig. 2 The Main Built-up Areas of the East Midlands Region, 1958
The map shows the extent of the built-up areas at the latest date for which information on a uniform basis is readily available. Open uses on the periphery of towns, e.g. hospitals and houses in large grounds, are not shown as built-up: within towns only the largest open spaces are shown.

d 'The Eastern Lowlands'—the predominantly agricultural area covering Holland, Kesteven, Rutland and parts of Leicestershire.

The Geographical Background

12. The first important aspect of the Region's geographical position is implicit in the term 'Midlands' itself. The routes from the south and south-east of England to the north and north-west pass through the Region and have been and will continue to be of great importance. Advances in civil engineering and the coming of mechanical transport have modified the ways in which physical features influence the communication pattern, but it is still true that industrial development depends on the modern equivalent of trade routes. The fact that

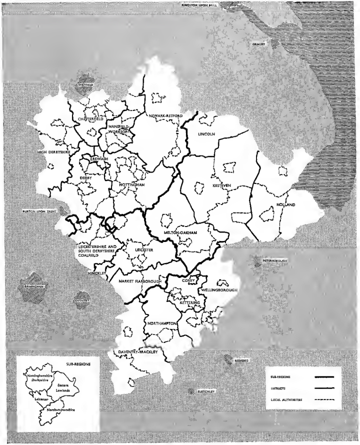

Fig. 3 Sub-Regions and Districts of the East Midlands Region
The boundaries of districts and sub-regions follow local authority boundaries. See *Appendix 3*.

the East Midlands lies athwart these routes between major industrial areas is of immense importance when assessing its own industrial potential.

13. The only high hills of the Region are in the north-western sector, the Peak District of Derbyshire, and the Region can be regarded broadly as the area draining northward into the Humber, and eastward into the Wash. This description identifies two of the basic features of the Region—the general slope from west to east, with its significance to water supply, and the accessibility from Europe across the narrow seas up its river valleys.

14. Inevitably over so large an area, the agricultural value of the land varies a good deal, but most of the Region is good farm-land, and the eastern part includes some of the richest land in the country. It was on agriculture that much of the Region's prosperity, and its pattern of towns and villages, was based, and much of its industry is still directed to the service of agriculture, such as food processing and the application of modern engineering techniques to farming requirements. It is certainly true that one of the continuing problems of the Region will be to reconcile the needs of an expanding population for more and more living space with the requirements of that population for more and more food; the agricultural resources of the Region will remain very important to the national economy.

15. The other main aspect of the Region's geography is the wealth of its mineral resources. (See Mineral Resources Map in pocket.) The most important mineral in the East Midlands is coal—the coal measures outcrop or come close to the surface along the eastern edge of the Pennine Peak District chain, and workings in this belt are old and in some cases nearly exhausted; but the field stretches eastward into Nottinghamshire at generally increasing depths, and the newer pits are well to the east of the traditional mining areas. There is a smaller but rich field to the south in north-west Leicestershire, and these two areas share with Yorkshire the distinction of being the most productive and profitable fields in the country.

16. The second mineral to be considered must be iron-stone. The workings in Derbyshire during the first Industrial Revolution formed the basis of much of the engineering industry in that part of the Region, and although they have long since been abandoned, the industry is still present and prosperous. At the present day reliance is placed on the iron-ore fields further east and south. It is here that the New Town of Corby, with its great steel-making complex, has been located. There are other minerals too, valuable for building materials. In an age when the construction industries are taking on even greater importance the demand for these materials is insatiable, and the Region is very rich in them.

The Human Factors

17. Enough has been said to show the relation between the industrial structure of the Region and its physical base. At least equally important are the changes men has made to the environment. The present pattern of life in the East Midlands is influenced and conditioned by much that is deep in our history. The Romans settled retired legionaries at Lincoln, and their settlement is still the focal point of a vast area. Edward the Elder built a bridge over the Trent near Nottingham, and increasingly over a thousand years Trent Bridge has had its periods of congestion. The Danes settled in the five towns of the Danelaw, and went forward to Northampton, which ever since has been a meeting-point of influences from the South and from the Midlands. The fortified Norman castles, and the manors recorded in Domesday Book, formed a pattern which still underlies the distribution of our villages. The first Industrial Revolution developed the coal and iron of Derbyshire and has left us with a whole series of problems and potentialities in the valleys of the Erewash and the Rother. Change goes on. Office blocks in the cities, and the cooling towers of power stations in the Trent Valley alter our skyline, and a great new road sweeps through the Region to bring us closer together as well as nearer to our neighbours.

18. The industrial structure of the Region is a fundamental aspect of this Study, and to understand why particular industries have flourished in particular areas would be a step towards understanding the Region's potentiality for the future. We might, for instance, ask why Northamptonshire is the centre of the boot and shoe industry of this country. Of course the industry was based on leather, and therefore could be expected to develop in an area where cattle were plentiful. But there were many such areas in this country, and it has been suggested that Northamptonshire became the centre of the industry primarily because the first big contract for boots was granted by Cromwell's army to a Northampton merchant. The importance of historical accidents and personal factors in the location of industry has been considerable, but they could only be decisive when the physical and social conditions were also favourable. Once an industry has been established it takes on a life of its own; it depends on and develops its relations with other industries, and alters its own environment—human and physical. Thus there arises the great complex of industry and economic relationships, which are so characteristic of our civilisation. The interplay of these social forces will form the background of much of this Study.

2 Population

The Region as a Whole

19. The East Midlands is one of the less densely populated regions of England. In 1965 its people numbered only some 3¼ million—6·2% of the population of Great Britain. The figure represents just under 700 persons per square mile as compared with nearly 820 for England and Wales, over 850 for Yorkshire and Humberside, nearly 1,000 in the West Midlands and nearly 1,600 in the South East. A considerable increase in the population of the country is expected during the rest of the century, so there are two questions about the Region which need answers. The first problem is to determine what the Region's population would become if no further measures influencing individual choice were decided on, apart from the population reception schemes already planned (see paragraph 38 for details); the second is to show what the advantages and disadvantages would be if it were decided to encourage people to move into, or out of, the Region more than they do at present. This chapter is largely concerned with the first problem; some part of the answers to the second will emerge later.

20. The best way of judging what would be likely to happen to the Region's population if no new measures were taken to encourage movement is to examine what has happened in the recent past and what is happening now.

21. The population of the Region is already rising quickly—more quickly indeed, relatively speaking, than that of the country as a whole. In 1951 it represented 6% of the Great Britain total, but crept up to 6·2% by 1965. (See Figure 4.) If the 1951 Census may be taken as a convenient starting point then it can be said that ever since that time the natural growth of population (excess of births over deaths) has been greater proportionately in the Region than in Great Britain. Moreover, more people have been moving into the Region than out of it; and both processes have, generally speaking, been accelerating. Table 1 summarises the situation:

TABLE 1

Civilian Population Changes, 1951–65

	East Midlands		Great Britain
	'000	%	%
Total Increase ..	368	12·7	9·0
Natural Change	255	8·8	7·6
Forces Rundown	25	0·9	0·8
Net Migration ..	88	3·0	0·6

It will be seen that just over two-thirds of the total increase in this period was due to natural change and that the balance was accounted for by migration and gains to the civilian population arising from the excess of demobilisation over enlistments to the armed forces. These natural change and migration trends are the significant facts about the Region's population and they may be so important for the future that they are worth examining more closely. Detailed statistics will be found in Appendix 4. Table 2 summarises the position.

22. The dominant element is natural increase and this for the civilian population of the East Midlands in the period 1951–65 was 255,000 people—8·8% of its original figure. This proportion was appreciably bigger than the national addition of 7·6%, though several parts of the country, notably the West Midlands and Scotland, had higher figures (Appendix 4*a*). Most of the increase took place—here and elsewhere—in the latter part of the period,

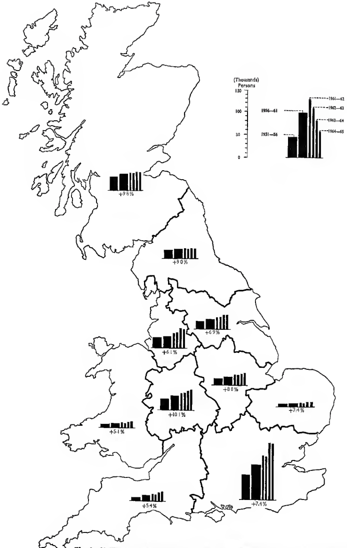

Fig. 4 Civilian Population, Natural Increase 1951–65, Economic Planning Regions
The heights of the columns are proportional to the mean annual natural increase and the widths are proportional to the length of the period. Thus, volume of change is represented by the area of the column. Percentage growth over the period 1951–65 is given in figures. The total natural increase 1951–65 in Great Britain was 3,677,900 or 7·6%.
See *Appendices 4 and 5.*

TABLE 2

East Midlands Population: Mean Annual Growth between 1951–65

Thousands per annum

Period	All Causes	Natural Increase	Forces Rundown	Balance of Migration
1951–58	18	14	1	2
1956–61	28	18	3	7
1961–62	40	22	2	16
1962–63	31	22	1	8
1963–64	33	25	—	8
1964–65	34	26	—	8

reflecting the surge in the birth rate between 1955 and 1964, and the four years 1961–65 accounted for 96,000 of the total natural increase. This rate of nearly 24,000 a year compares with an average of 14,000 for the first five years and 18,000 for the second five years of the period under discussion (see also Appendices 4*b*–*e*). Moreover all these rates, proportionately, were consistently above the respective national rates.

23. The other main strand in the population pattern is migration; and this includes not only migration into or out of Great Britain, but also all movements from one part of the country to another. (See Figures 5, 6 and 7.) The national position was that between 1947 and 1958 more people were leaving Great Britain than were coming into it, but this was then sharply reversed by increasing immigration from the Commonwealth, which reached its peak just before the coming into force of the Commonwealth Immigration Act in 1962; this reduced the flow of immigrants until by 1965 there were again more migrants leaving Great Britain than entering it. (See also Appendix 5.) Against this background the regional figures increase in significance. In the early period 1951–56, the East Midlands increased by just over 2,000 people per year through immigration; in the following five years the figure was 7,000 per year, and excluding the abnormal year 1961–62 (see Appendix 4*d*) in the last three years up to 1965 it was fairly steady, averaging nearly 8,000 per year. Many of the immigrants came from the overseas Commonwealth, and in 1961 the Region had some 26,000 people who were of Commonwealth birth—though this represented only 3·9% of Commonwealth born people in England and Wales (see Appendix 12). If a similar proportion of the 1961–64 immigrants from other parts of the Commonwealth had settled in the Region this would have added about 12,000 more migrants. This assumption is inevitably highly speculative, but Commonwealth immigration was undoubtedly of considerable importance. However, it by no means accounts for the whole increase. More people also moved into the Region from other parts of the United Kingdom than moved out, though this must not be exaggerated. The general pattern of migration in the country was for more people to move from Northern Ireland, Scotland and northern England to the south than in the reverse direction; for this purpose the East and West Midlands are both part of the south, but they both received smaller shares of the moving population than did the south and east. The East Midlands' total net gain of 88,000 in the period 1951–65 looks small in comparison with the South East's figure of just over 600,000 though the latter includes a much bigger proportion of Commonwealth immigrants. The 1961 census showed that in the one year 1960–61 the North Midland Region gained on balance 6,000 from other regions in England and Wales including a net gain from the Greater London conurbation of about 1,000 and even a small net gain from the West Midlands (see Appendix 6), so in some ways the Region shared the high attractiveness of the South East for people born in this country. But it will be noted that the figure of 88,000 is not very big either, when compared with the Region's gain of 256,000 by natural increase.

24. Although the Region as a whole is not so densely populated as several of its neighbours (see Appendix 3) there are very significant differences between various parts of it. Rather more than half the people of the Region live in the two counties of Derbyshire and Nottinghamshire, and even within these counties they are

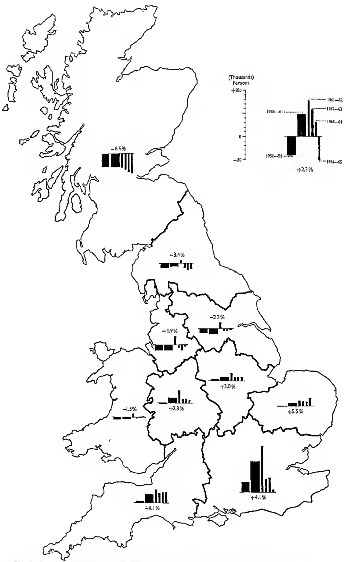

Fig. 5 Civilian Population, Estimated Net Migration 1951–65, Economic Planning Regions
The heights of the columns are proportional to the mean annual net gain or loss by migration and the widths are proportional to the length of the period. Thus, volume of net migration is represented by the area of the column. Percentage change over the period 1951–65 is given in figures. The total net migration gain 1951–65 for Great Britain was 268,600 or 0·6%. See *Appendices 4 and 5.*

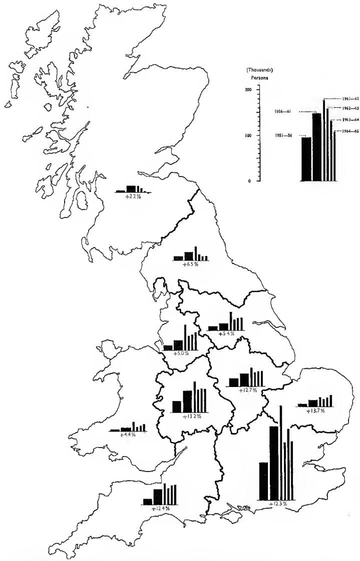

Fig. 6 Civilian Population, Total Change 1951–65, Economic Planning Regions
The heights of the columns are proportional to the mean annual total change and the widths are proportional to the length of the period. Thus, volume of change is represented by the area of the column. Percentage growth for the period 1951–65 is given in figures. The total increase 1951–55 for Great Britain was 4,357,600 or 9·0%. See *Appendices 4 and 5.*

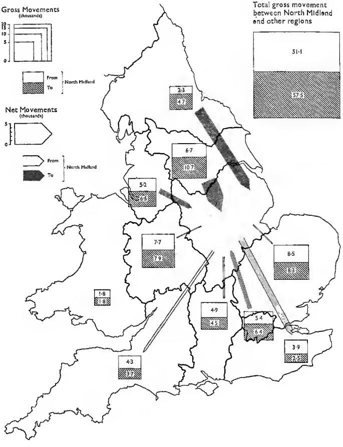

Fig. 7 Migration between North Midland and Other Standard Regions, 1960–61
The information derives from the 1961 Census, 10% sample, and refers to movement between Standard Regions. The squares are proportional to the total number of migrants between the North Midland and other regions and the widths of the arrows are proportional to the net balance of movement. The total gross movement between the North Midland and other regions was 108,500 and the resulting net balance was a gain of 6,400 to the North Midland.

TABLE 3

Civilian Population Distribution, 1951 and 1965

Sub-Region	1951		1965		Increase 1951–65
	'000	%	'000	%	%
East Midlands Region	**2,892**	**100·0**	**3,260**	**100·0**	**12·7**
Nottinghamshire–Derbyshire sub-region	1,577	54·5	1,769	54·3	12·2
Nottingham–Derby districts	891	30·8	997	30·6	11·8
Remainder	686	23·7	772	23·7	12·6
Leicester sub-region	609	21·0	685	21·0	12·6
Leicester district	442	16·3	505	15·5	14·4
Remainder	167	5·7	180	5·6	7·3
Eastern Lowlands sub-region	348	12·0	384	11·8	11·0
Northamptonshire sub-region	360	12·5	422	12·9	17·2

concentrated in particular areas—in or round Nottingham and Derby, in a broad belt along both sides of the county boundary marked by the River Erewash and on a smaller but developing scale near the Region's border with Sheffield. The Region's remaining million and a half are spread over five counties, but the three county towns of Leicester, Lincoln and Northampton account between them for 450,000 and, if the suburban or urbanised districts round them are included, the figure is nearer the three-quarters of a million mark. The other 750,000 are shared by the smaller industrial towns of Leicestershire and Northamptonshire, the market towns and the county parishes. All the major areas of the Region have been increasing in the size of their population, but they have not been growing at anything like the same rates. (See Figure 8.) Table 3 summarises the position.

The Sub-Regions

25. The natural growth rates in the sub-regions for the whole period 1951–65 varied from 8·4% in Northamptonshire to 9·0% in the Nottinghamshire–Derbyshire sub-region, and further sub-division would show a wider range of difference; the causes are no doubt very complex, but the most obvious and, in a community as homogeneous as the British, the most important is the pattern of movement. Obviously there is likely to be a higher death-rate per thousand people in an area which is attractive to retired people (even though individually they may live longer there than they would anywhere else), and an area which young people tend to leave is likely to have a smaller birth rate than the areas to which they go. In consequence the rate of natural increase is, in part at least, a reflection of the movement pattern of earlier years. It seems likely therefore that the case quoted above—the relatively low natural increase in Northamptonshire—will show a considerable change in the future in consequence of the arrival of the large numbers of people of working age which is now planned. The upland country districts of Derbyshire show a very low rate of natural increase, and this is almost certainly due to the departure of appreciable numbers of young people in the past; the same situation arises, though to a less marked degree, in other rural areas in the eastern part of the Region. It will be appreciated therefore that a close examination of the recent migration pattern is important in looking to the future.

26. Not only did the Region as a whole increase its population as a result of migration in the period 1951–65, but the same is true of each of the four sub-regions. (See Figures 9 and 10.) The lion's share went to Nottinghamshire–Derbyshire, the sub-region already most heavily populated, and the smallest to the Eastern Lowlands sub-region; but, in terms of increase relative to the population already there, Northamptonshire got much more than the others—7·9% (nearly half its total population growth in the period) as against 3·0% for Leicester, 2·3% for Nottinghamshire–Derbyshire and only 1·4% for Eastern Lowlands. In some respects however even the sub-regions are much too big to show what was really happening, and a closer examination is needed.

27. Just as sub-regions are too big for our purpose, local authority areas are often too small. All the towns were growing outwards during the period under review: not only were their

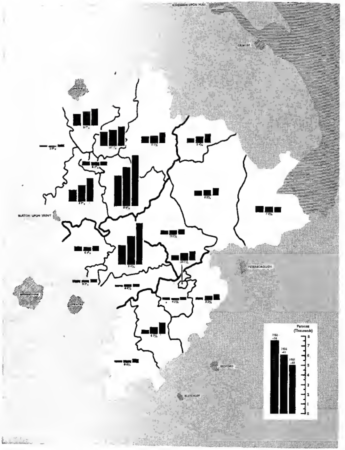

Fig. 8 Civilian Population, Natural Increase 1951–65, Sub-Regions of the East Midlands
The heights of the columns are proportional to the mean annual natural increase and the widths are proportional to the length of the period. Thus, volume of natural increase is represented by the area of the column. Percentage growth over the period 1951–65 is given in figures. The total natural increase 1951–65 in the East Midlands was 255,300 or 8·8%. See *Appendices 7 and 8.*

populations increasing but people were growing more demanding in terms of space and more mobile; they were prepared to travel further if they could have more space and newer housing. The local figures therefore do not reveal very much; several of the towns actually went down in population and others only avoided this result because their boundaries had been extended during the period. But in either case the town really remained as important as ever—it was just that more of its people lived further out.

Overflow from Sheffield

28. There is one very important case of urban expansion which requires special mention—that of Sheffield. Sheffield is of course outside the Region, but it adjoins the Derbyshire

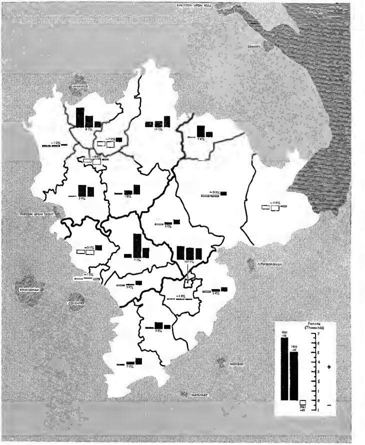

Fig. 9 Civilian Population, Net Migration 1951–65, Sub-Regions of the East Midlands
The heights of the columns are proportional to the mean annual net gain or loss by migration, and the widths are proportional to the length of the period. Thus, volume of change is represented by the area of the column. Percentage change over the period 1951–65 is given in figures. The total net migration gain 1951–65 for the East Midlands was 87,500 or 3·0%. See *Appendices 7 and 8.*

boundary and population has in fact overflowed. The Urban District of Dronfield increased by nearly 5,000 people, and the Rural District of Chesterfield by 18,000 people, coming into their areas during the fourteen-year period. These areas might well have attracted people anyway, but it is clear that a high proportion of the newcomers, at least in the Rural District, came from Sheffield into housing sponsored by Sheffield. The combined figure of 23,000 should be compared with the regional total of 88,000. To assess the general attraction of the Region some subtraction is therefore needed; some of the 23,000 are only living in the Region because they are near enough to work in another. It will be appreciated, too, that if this figure is subtracted it will show that the rest of the Nottinghamshire–Derbyshire sub-region is growing

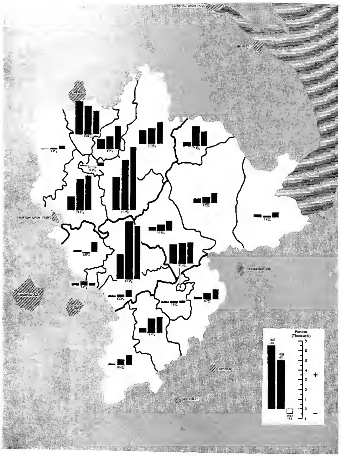

Fig. 10 Civilian Population, Total Change 1951–65, Sub-Regions of the East Midlands
The heights of the columns are proportional to the mean annual total change and the widths are proportional to the length of the period. Thus, volume of change is represented by the area of the column. Percentage growth over the period 1951–65 is given in figures. The total increase 1951–65 for the East Midlands was 367,700 or 12·7%. See *Appendices 7 and 8.*

much more slowly than was suggested above—in fact more slowly than the Eastern Lowlands sub-region. The boundary changes recently announced will affect the figures on which future population estimates will be based, but for the present purpose they have been ignored.

Nottingham and Derby Areas

29. Nottingham and Derby and the urban areas surrounding them attracted respectively some 7,000 and 10,000 more people than they lost in the period 1951–65, so clearly Derby was proportionately a more powerful magnet. The eastern parts of Nottinghamshire lying on or near the developing section of the coalfield (Newark–Retford district) also gained some 11,000 people. The position in the western part of the coalfield is more obscure, being complicated by the Sheffield expansion. If however the latter is disregarded there was overall a net

movement of people out of the area; this applied both in East Derbyshire and West Nottinghamshire and in almost the whole of the Erewash Valley. Long Eaton right at the south gained a little—presumably sharing some of the attractive power of Greater Nottingham and Derby. In the Derbyshire hills there continued to be a small migration from the county parishes, but the local towns gained at least some of this. It will be seen that the sub-regional summary hides a very much more complex position. It will be remembered too that these gains and losses due to movement took place at a period when the birth rate was rising. In the result every local authority in Nottinghamshire increased its population, though in the part of Derbyshire in the sub-region three urban and two rural districts had smaller populations at the end of the period than the beginning; the same was true of Derby CB but this was merely a reflection of administrative boundaries.

The Leicester Sub-Region

30. In the Leicester sub-region, the area we may call 'Greater Leicester' gained over 18,000 by migration, more than twice as much as 'Greater Nottingham'. Most of this expansion took place in the five years 1956–61; the removal of earlier restrictions on private housebuilding enabled an accumulated demand to be met, and certain large firms are known to have expanded in this area in that period. Since then the rate of expansion has slackened. So far as the rest of the sub-region is concerned, the Leicestershire and South Derbyshire coalfield and Hinckley had small migration losses but the Market Harborough district had a small gain. As a result the sub-region as a whole gained about 17,600 by people moving — a rather greater proportional increase than in the Nottinghamshire–Derbyshire sub-region. Again natural increase more than compensated for any losses in most local authority areas, and total falls in population were rare and insignificant, except at Swadlincote—which is actually in Derbyshire but has been included in this sub-region because it has so much in common with the rest of the coalfield. Leicester CB also lost population, but this was for the reasons already explained.

Northamptonshire

31. One of the most interesting and complicated sub-regions is Northamptonshire, which gained 28,500 people by migration in the period 1951–65. But 18,000 of these were at one place, the New Town of Corby. Northampton CB experienced the usual spreading of population to the surrounding districts, which grew considerably, but its own natural increase was big enough to produce an overall rise in population despite this movement. The southern and western edges of the county gained by migration—perhaps the first signs of expansion over the boundary arising from pressures in the South East and the West Midlands — but several of the communities in the centre and east lost so many people in movements that their total change in population was either a very small gain or even a loss. Here, too, there was apparent the same tendency as in upland Derbyshire for people to move out of the county parishes into the local small towns. The general explanation for this is that agriculture has reduced its demand for labour, and personal communications over a distance are easier; but in Northamptonshire changes in the organisation of the footwear and iron-ore extractive industries have also been factors.

The Eastern Lowlands

32. The sub-region which we have called the Eastern Lowlands, and which includes two Parts of Lincolnshire, together with Rutland and eastern Leicestershire, is primarily an agricultural area, with a scatter of small towns. Lincoln CB is industrialised, and though it also overflowed its boundaries they were wide enough to house 7,700 more people in 1965 than in 1951. The Lincoln district (Lincoln CB and North Kesteven RD), apart from its natural increase, gained 7,300 people by immigration. This relatively high rate of growth was associated with a rapid expansion of manufacturing industry. Another locality with a very high relative growth rate—though in absolute terms not very big—was the Oakham area of Rutland, which increased by more than a third, over half of it by migration. In the Leicestershire portion of the sub-region, Melton Mowbray attracted population, partly at the expense of the surrounding rural district, though when natural increases are included both areas showed increases in population. In Kesteven the four towns Grantham, Stamford, Sleaford and Bourne all gained by migration, but again two of the four rural districts lost, though with natural increase they more than maintained their population. The situation in the Parts of Holland was very different; every local authority area except Spalding lost by migration, though in the case of Boston this was at least partly due to population spreading beyond its boundaries. The rural district of East Elloe, despite natural increase, had over 1,000 people less in 1965 than in 1951.

Future Trends

33. It will be seen from this brief description (and the detailed figures in Appendix 7) that although population in the Region is growing quickly both by natural increase and by migration, the biggest growth is in and around certain of the big towns—though by no means

in proportion to their present populations—and in areas at the north and south of the Region where the influence of population expansion in other regions is the determining factor. The areas which have attracted migration in the recent past are also those likely to experience the biggest natural growth in the future. The rural areas have been losing people, probably very often the younger people, to the towns, and there are also several industrial areas from which people have tended to migrate. These include the older parts of the Nottinghamshire–Derbyshire coalfield, the Leicestershire coalfield, and east-central Northamptonshire.

34. The consequences to manpower and the labour force are examined in Chapter 3, but here it may be noted that in 1961 the Region's proportion of people over retirement age (65 for men, 60 for women) was rather smaller than that in England and Wales. The percentages were 14·1% and 14·9% respectively. But it had more children—23·7% as against 22·9%—and just a fraction less of people of working age, 62·1% as against 62·2%. The position is very much what would be expected in a Region which has attracted people to come and work there. Looking forward, the proportion of children and older people will increase as the proportion of people of working age decreases, although the position in this Region will be alleviated slightly by the expected inward migration. It must not be forgotten that the rise in the school-leaving age in 1970 will decrease the working population and increase the numbers to be supported by it. One of the problems of the future is clearly going to be that the working population in the Region as in the country at large will increase much more slowly than the total population it supports and this unfortunately will be particularly true of the next few years. (See paragraph 43.)

Growth Forecasts

35. National population projections published in 1966 implied an increase in the population of Great Britain of nearly 7 million between 1965 and 1981 and about 20 million by the end of the century. An assessment of the East Midlands proportion of this growth is an essential element in the evolution of long term regional planning strategies; what we need to know is where the children will be born so that we can provide the schools, hospitals and the countless other things they will need. A reasonable measure of confidence can be placed in the national forecast of growth up to 1981, and although that for the end of the century is inevitably much more tantative it provides enough general indication for our purposes. There are three main elements in the problem. The first and most important is, of course, natural increase. The national projections published in 1966 assumed that there would be some further slight increase in the birth rate in the remainder of the century and that the average size of family would continue to grow, although at a diminishing rate. It is also assumed that there will be a reduction of death rates, particularly among the young and middle-aged elements in the population. These assumptions imply that population is likely to grow faster during the rest of the century than it has done in the recent past. The East Midlands is expected to share in these trends.

36. The second factor is international migration. Since 1958 more people have been coming into Great Britain than have been leaving it, and it is evident that the East Midlands like most other parts of the country owed some of its migrant gain in the later 1950s and early 1960s to this source. Current projections however assume a much reduced migration gain from overseas. This has to be taken into account in the regional estimate of future migration to 1981.

37. The third factor is migration within the United Kingdom and this is perhaps the most important and the most difficult to assess for the East Midlands. Some migration is deliberately sponsored by public authority—the New Town of Corby is a case in point—and some of it is entirely due to individual decision, influenced primarily by job opportunities though the amenities of an area or even personal whims may also be involved. Private movement is likely to continue, and planning must try to assess the relative attractiveness of different areas in the light both of past experience and the changes in environment and opportunity which can be expected or arranged.

38. At the end of 1965 the main schemes for the organised movement of population affecting the Region, already negotiated or currently envisaged, were as follows. *Corby* has already been increased from 17,000 in 1951 to 44,800 by mid-1965, and is planned to be built up to about 70,000 by 1981 and thereafter to grow to 80,000 in the longer term. *Northampton* has been suggested in *The South East Study 1961–1981* as a place for expansion to relieve congestion in the London area. Consultants have prepared a feasibility study for a possible addition of 70,000 through migration by 1981 and for further growth by natural increase thereafter. Definition of a suitable area for designation is now under consideration. *Coventry* has an overspill agreement with Birmingham to receive 16,000 people by 1981. This may be increased in the longer term. *Wellingborough* has started to build 3,000 houses for the reception of overspill from London with an expected population intake of about 10,000, but is negotiating with the

Greater London Council at present with a view to accepting a substantially larger number. *Chesterfield Rural District* has received population from Sheffield. Sheffield CB estimates that land for 96,000 people will have to be found outside the 1966 boundaries of the county borough by 1982, and proposes that 72,000 of the overspill population should be housed in Chesterfield Rural District. The Minister of Housing and Local Government has broadly accepted Sheffield CB's estimates of overspill need and indicated that most of it should be accommodated in a community centred on Mosbrough. The major part of this future development will take place inside the revised boundaries proposed for Sheffield but, in view of the way the past development has influenced the population figures of Derbyshire, the position is recorded here.

39. It is important to stress that in essence these 'organised' schemes express an intention that certain total population targets are to be achieved. The achievement will come about partly through officially sponsored migration and partly through 'private' migration. Allowance must also be made for the children who will be born to the migrant families, and this element of natural growth will become an increasingly important component in the realisation of targets later in the century. Elsewhere in the Region, private migration will go on. There is no reason to suppose any diminution in the attractive power of the Region; this is fundamentally based on a variety and quality of employment opportunities which are likely to persist.

40. Since 1951 nearly 88,000 more people have come into the region than have left it, but of these 23,000 moved to the area near Sheffield, and perhaps 10–15,000 went to the New Town at Corby. So only about 50–55,000 can really be attributed to the general attractive power of the Region—an average of about 3,500 a year over the fourteen years. But the average is misleading; of the 88,000, 12,000 came in in the first five years, 36,000 in the second five, and no less than 39,000 in the last four years. The last figure was inflated by the number of Commonwealth immigrants just before the Commonwealth Immigration Act came into force, but since 1962 the Region has probably gained an average of about 6–7,000 people a year by private migration.

41. Future estimates must, of course, take account of the increased migration to be expected from the West Midlands and South East as a reflection of the augmented planned expansion programme detailed in paragraph 38. In addition, we must assume: (i) a reduction of migration gains from outside the country, reflecting the reduced national assumption (see paragraph 36); (ii) diminished gains from Scotland and the northern regions of England, which must be allowed for if public policy aiming at reducing the flow of migrants from these areas is successful. On the basis of these assumptions it would seem wise to plan for an inflow of migration—private and 'officially sponsored'—of the order of 13,000 a year between 1965 and 1971 and 15,000 a year for the following ten years.

42. If we now look forward to 1981, and take account of the natural growth of the Region's population as well as migration gains, we foresee a Region with a home population of 4,002,000 people as against the 3,272,000 of 1965, a growth of 730,000. The sub-region with the biggest growth, some 355,000, is likely to be Nottinghamshire–Derbyshire, but Northamptonshire with 200,000 will be very much more strongly affected; in fact its population will be half as big again as it was in 1965. The Leicester and Eastern Lowlands sub-regions are likely to be much less affected, with 115,000 and 60,000 extra respectively. These estimates are made on the basis of current policies and decisions on future strategy which have already been made.

43. For the Region as a whole, the General Register Office has estimated how the projected population increase between 1965 and 1981 will be spread between the various age groups, as shown in Table 4. The figures given here and in Appendix 9 are for 'home' population and therefore differ slightly from the 'civilian' population figures used elsewhere in this chapter. The above analysis shows that the increase in the 'working age groups' (males of 15–64 and females of 15–59—making no allowance for the raising of the school-leaving age in 1970) is expected to average only 11,000 a year between 1965 and 1971, but 24,000 a year during the 1970s. In the earlier period 28% of the increase is in these age groups, but 49% in the 1970s. In 1965 these age groups accounted for 62% of the Region's population, however; and these projections show that, in spite of continuing net movements of people into the Region, the growth of the working population cannot be expected to keep pace with the growth of the population as a whole. This has implications for the growth of employment in the Region which are discussed in Chapter 3. The increasing population of the young and old also has implications for the health and education services, and these are discussed in Chapter 7.

44. A large and comparatively rapid expansion of population will make a great deal of difference to the life of the people, and the towns in which most of them live; it will create many problems which—if the last state of the Region is not to be worse than the first—will urgently need

TABLE 4

Projected Changes in Age Structure, 1965–71–81*

	1965–71		1971–81	
	'000	%	'000	%
All ages	+244	100	+486	100
Persons, 0–14	+124	51	+195	40
Males, 15–64	+34	14	+121	25
Females, 15–59	+34	14	+115	24
Older persons	+53	22	+57	12

* As each figure has been rounded to the nearest whole the totals are not necessarily the sum of their components.

attention. It is indeed largely to help in clarifying decisions on these problems that this Study has been undertaken. But although the period up to 1981 is the immediate one for our purpose, it is important that we should do nothing in this period which will make the problems of the next more difficult. We must look forward, as well as we can, beyond 1981 so that we can avoid at least the major errors. The further we look, of course, the more difficult it becomes.

45. It is possible to suggest tentative figures for the population the Region would reach by the year 2001, but they must be subject to a wide margin of error, and public planning policies may well change the picture very considerably. In the absence of such changes the population of the Region can be expected to be about 5 million by the end of the century.

46. Plans are required to provide for an extra 350,000 population in Nottinghamshire–Derbyshire by 1981, but this should be regarded only as the foundation for continued growth thereafter, in all a population by the end of the century probably exceeding 2½ million—an addition of the equivalent of an extra two cities of the size of Nottingham. Similarly a dramatic impact must be expected to be made by the planned expansion programme for Northamptonshire, which will strengthen its links with adjoining major schemes envisaged for Bedford and North Buckinghamshire in the neighbouring South East, and may in the process grow to over ¾ million. The Leicester sub-region, which has about two-thirds of a million people, now may be approaching the million mark by the end of the century. And even in the Eastern Lowlands where growth will be less, its dimensions in relation to the current population are nevertheless large, and may well result in a population of well over ½ million.

3 The People at Work

Prosperity

47. The East Midlands Region is a prosperous area; it has had a long and consistent record of low unemployment and of industrial expansion. This is neither to deny that there is appreciable—and deplorable—personal poverty, nor to claim that there is much spectacular affluence; both are to be found, but they are less common and less extreme in this Region. The general picture is of a series of hard-working and busy communities, where few people are very rich but the large majority enjoy a rising standard of life and expect it to continue.

48. Generalisations of this type cannot be completely accurate. But when the future of the Region is being considered, some general conclusions about the present are needed. Conditions, whether of activity or stagnation, tend to perpetuate themselves, and prosperity attracts prosperity. It is true that the natural advantages of a region, in terms of its position, its natural resources and its natural amenities, are of great importance. But industry develops most easily in an environment where industry already exists, and people are attracted most to areas where others have found life satisfactory. Entirely new communities can indeed be created, and have been created, with all the people and all the industry attracted from elsewhere; but these communities, until they are firmly established, are very dependent on their inter-relations with the older towns, and the further they are from a developed base the slower and more difficult is their progress. In an area the size of a region, therefore, the present achievement is a vital factor in determining the likely future.

Unemployment

49. Perhaps the most obvious index of an area's well-being is the unemployment rate. Rates for the East Midlands Planning Region are not available for most past periods, but those for the North Midland Standard Region are sufficiently indicative. They show that the unemployment percentages in this Region have for the whole period since 1951 been significantly below the figures for Great Britain (see also Appendix 23). This has been true both of males and females separately and of the grand total of both combined, but the position is ever changing.

50. For the years 1952 to 1965 inclusive, the average number of wholly unemployed in the East Midlands (an average of annual averages) was 11,300 out of an employees' total which ranged from 1,230,000 in 1952 to 1,430,000 in 1965. This average was made up of 7,700 men, 400 boys, 2,900 women and 300 girls. The annual average total registered unemployed (including temporarily stopped) ranged from under 0·5% in 1955 to nearly 1·8% in 1963.

Vacancies

51. It is difficult to get a comprehensive measure of the demand for labour, but the available figures clearly show a continuous and relatively steady excess of vacancies over unemployed for girls and a demand only slightly weaker for boys. The average number of unemployed women exceeded the number of vacancies in three of the fourteen years up to 1965 and a similar position applied to men in six of the fourteen years, demand fluctuating very widely. The position in 1965 was that there was a strong and increasing demand for labour, though the excess of vacancies over unemployed was overall less than half what it was in 1955, and the demand for men was still well below the average for the period 1952–65.

The Supply of Labour

52. The labour problem of the East Midlands is not one of unemployment but rather of too

many jobs looking for too few people to fill them. Figures of employment and unemployment do not of course tell the whole story. There are large numbers of people who are not in these terms in employment at all—the retired, the students, the people who work for themselves rather than an employer, and above all, perhaps, the wives and mothers who keep house rather than go out to work. Some retired people and some wives might very well like to work if they could find near enough to their homes work they could undertake, without undue strain or detriment to their other responsibilities. If it were practicable to identify places where there were many people in any of these categories, some useful action could be taken.

53. This consideration is by no means academic. The East Midlands has seen many cases of employers in the footwear and hosiery industries setting up branch establishments at a distance from the parent plant because female labour is more easily found in one area than another; by no means had all this labour previously been employed or registered at an employment exchange. It is true, too, that the need for female-employing industry in areas where traditionally male-employing industries like mining predominated has been appreciated for a very long time. This poses the questions as to how far all these pools of potential labour have in fact been absorbed already, and whether the continual changes in our industrial structure may not in fact be creating new reserves of labour even while existing ones are being identified and used.

Regional Activity Rates

54. One approach to the question has been to work out 'regional activity rates'—figures expressing the proportion of the adult population, all of it, male and female, or separately by sexes and in age groups, who are employees. (See also Appendix 22.) Taking the percentage of home population unemployed and in employment—thus excluding the self-employed and people in the forces—who were male and over fifteen, the Great Britain figure for 1951 was 76%, and for 1963, 76½%. The East Midlands figures are not available, but the North Midland figures are probably near enough, and they were 76% in each case. There was a wide variation between regions, 65½% to 81% in 1963. In general the high figures were in the industrial regions, the low in the agricultural regions of Wales and the South West, with the North Midland and South Eastern Regions occupying middle positions. During this period the North Midland figure fell slightly, in common with the northern regions, while the national figure rose. But if the reason was that the figure was brought down as a result of boys staying at school and an earlier retirement age in such industries as mining, it is difficult to regard the Region's reduced percentage as something necessarily to regret.

55. In general it seems unlikely that a study of male activity rates will help. Almost all men up to 60 or 65 are engaged in some form of economic activity; the exceptions may indeed be a social problem but they are surely too few to make much difference to the economic life of the Region. The position of the older men is certainly somewhat different; in the age group of the over-65s the Great Britain activity rate fell from 23% in 1951 to 19½% in 1963, and the North Midland figure from 23½% to 18½%. Although the 1951 figure may have been raised a little abnormally owing to over-65s remaining in employment to complete ten years' insured employment in order to qualify for a pension under the 1948 National Insurance Act, it may be that there was a national trend towards earlier retirement or that there were more people reaching retirement age; whatever the reason the effect was accentuated in this Region.

56. There is, perhaps, rather more to be gained by examining the female activity rates. The rates for all ages over 15 in Great Britain were 35½% in 1951 and 38½% in 1963, as compared with the North Midland figures of 34% and 37%. These rates conceal very wide differences between regions and between age-groups, the most significant general feature being that the South East and West Midland regions were showing figures higher than the traditionally female-employing regions centred on Lancashire and Yorkshire. The North Midland rates were lower, but very much nearer to the figures of those regions than they had been in 1951.

57. When individual age-groups are examined, the North Midland is seen to have shared the fall in female employment in the 15–24 age-group which was nationally experienced; the regional figure is only fractionally below the national, and amounted to 67% in 1963. The fall was clearly largely due to an increased number of girls remaining at school beyond minimum leaving age on the one hand and earlier marriage on the other.

58. The percentage rates for female employment in the age-groups over 25 rose during the period quite significantly, both regionally and nationally, but the regional figures were consistently lower than the national. The most significant rise in each case was in the 45–59 age-group, the regional figures increasing from 31½% in 1951 to 40½% in 1963, the Great Britain figures from 33% to 44½%. It is significant that by contrast the figures for the West Midlands for this age-group were higher than the national—38% to 48%.

59. The figures bear out the commonsense conclusion that the proportion of girls who enter employment after school is little different from that among boys, but many of them leave employment for a time thereafter, and some of them either never come back or only come back for restricted periods. The numbers who do return have been increasing significantly, but both the total numbers and the increase have been smaller in this Region than in some others, smaller indeed than the national average. The vacancies exist in large numbers but, whether because of location or otherwise, are insufficiently attractive.

60. An identification of areas where there are pockets of potential but unused man-power, or more probably woman-power, would clearly be of considerable economic value, but here the available Ministry of Labour statistics do not help very much. The basis for these statistics is the exchange of National Insurance cards, and a few daily bus-loads of people going elsewhere to work can reduce the significance of comperisons. Any closer identification must therefore rely to a considerable extent on local knowledge.

61. Two areas stand out as likely to have small reserves of labour. The first is the coalfield; in some towns, female-employing industry has been introduced but in others scope is still believed to exist. The other comprises the smaller towns of Lincolnshire, where the local view is that small industrial units dependant on female labour would still find an adequate supply. Since the potential employees do not register at employment exchanges it is difficult to proffer estimates of numbers.

Migration of Labour

62. A further indication that the Region has been rather less successful in catering for the employment needs of women than of men is provided by a study of migration. Again figures for the East Midlands as such are not available, but the North Midland figures are adequate to show what happened despite possible margins of error inherent in the statistical methods used. (See Appendix 24.) In the period 1951–64 the Region gained some 10,000 employed people by migration from other parts of the country. In fact 440,000 men and boys moved into the Region, while 422,000 moved out; 172,000 women and girls moved in and 180,000 moved out. So the 10,000 net gain consists of a loss of 8,000 females and a gain of 18,000 males.

63. The figure of 10,000 employees may appear rather small in comparison with the total migratory gain of 80,000 for the same period for the slightly smaller area of the East Midlands proper. Part of the explanation is that the 80,000 included people from the overseas Commonwealth, whereas the labour migration referred to in paragraph 62 was only concerned with movements inside the country. But also it is clearly true that more of the employees who moved into the Region had dependants than those who moved out.

64. This conclusion is supported by a closer analysis of the figures for migration to those regions to which the North Midland had a net loss of employees in the period 1953–64. These are the South East, the West Midlands and the South West, whose average gains from the North Midland were respectively 2,900, 270 and 240 per year. The loss to the South East was made up of 400 per year aged 15 to 19, who were almost all female, 2,200 per year aged 20 to 44 and only 300 aged 45 or over. Almost half the loss to the South West was of employed people aged 45 or over, presumably in anticipation of retirement.

65. The figures given in paragraph 64 are net—they are what is left after the very much larger number of movements in all directions have so far as possible been allowed to cancel each other out. The conclusion that more of the older age-groups decide to go to the South and South West than in the opposite direction is hardly surprising. Younger people of both sexes are in general more mobile, and it is not surprising that the secretarial and distributive trade opportunities of the South East result in a tendency for girls to move that way. But in general the Region has gained considerably and, taking good years with poor ones, consistently from migration trends.

Household Income and Expenditure

66. The general position of the Region, therefore, is one of consistently very full employment, with perhaps some suggestion that the variety and convenience of opportunities for women have been less obvious than those for men, but even so with considerable job attraction for almost everyone. At this point it seems convenient to enquire what this has meant for the family and for the individual. The answers are most easily derived from the Ministry of Labour *Household Expenditure Enquiry 1953–54* and *Family Expenditure Survey 1961–63* and although the results may not be correct to the last digit, being based on a fairly small sample (721 households in 1961–63), they nevertheless present a picture of the Region (though again the North Midland Region) which conforms with other evidence and common experience.

67. In the decade 1953/63, despite an increase in the home population of Great Britain from 49·2 million to 51·8 million, the average size of household fell from 3·16 persons to 3·0. The numbers of persons aged 65 and over per household rose and the number of children per household fell. This means simply that the greater number of children was shared among an even greater increase in the number of households. There is a contrast here with the position in the North Midland Region, where the fall in the size of households was smaller, 3·18 to 3·09; there was a slight fall in the number of persons aged 65 and over, but there was a rise in the number of children under 16 per household. These points are brought out because, when considering the personal implications of the situation, it must be remembered that the average household in the Region was rather bigger than the national average, and that it contained more children and fewer of the higher age-groups. The number of persons working per household fell nationally from 1·39 to 1·34 over the period, and in the Region from 1·41 to 1·35. This again is a reflection not of a reduced labour force but of the greater ease, as second world war conditions receded, of setting up separate households among the young and maintaining them among the older age-groups. The significance of these slight differences between the composition of the population in the Region and in the country at large can only be fully appreciated when the occupations and incomes of individuals have also been studied, but it will be realised that since the proportion of people over the age of 65 is less, there was rather a smaller proportion of households primarily dependent on retirement pensions in the Region; but on the other hand the greater number of children per household meant that wage-earners had rather more responsibilities in this Region than in some other areas.

68. The Ministry of Labour enquiries referred to investigated the occupation of 'Heads of Households' and revealed that throughout the period the two Midland regions had the highest proportion of manual workers. The proportion was slowly falling—faster in the West Midlands than in the North, though both figures ended at the same level of 56% compared with the national average of 49%. The North Midland figure of 'Unoccupied, including retired' was, in 1961–63, 21% as compared with the national figure of 24%, but even so the Region's percentages of 'Employers and professional workers' and 'Clerical workers' were both well below the national average and climbing rather slowly.

69. When the incomes of heads of households are compared, the Region shows rather smaller proportions in the very lowest income groups and a smaller proportion, too, in the highest category of over £40 a week. The average income is decidedly less than in, say, the West Midlands or the South East, but higher than that in the northern regions. The average income of heads of households in the 1961–63 survey was £15 a week in the Region as against £15 5*s.* 0*d.* nationally, and since the average household in the Region had to support fractionally more people, the income per head at £6 10*s.* 0*d.* was appreciably below the national average of about £6 19*s.* 6*d.* It was the lowest but one of the English regions.

70. Confirmatory evidence as to the financial position of people in the Region can also be found in the 105th *Report of the Commissioners of Inland Revenue*, based on income returns for the year 1959–60. This evidence, like so much of the other material available, is based on the North Midland Standard Region, but again there seems no reason to doubt that the position described is representative of the East Midlands Region. It will be appreciated, of course, that non-taxable income is excluded, together with all the cases of income below the tax-exemption limit for a single person. Taking the number of cases of taxable income derived from different sources, it is found that the proportion of such incomes earned as wages was 69·7%. This is well above the national average of 62·9%, though the West Midlands was a little higher at 70·5%. The North Midland Region showed only 18·0% of salary earners against the national figure of 23·5% and 32·8% in the South East. Net earned income in the Region was £683 as against £687 nationally, £717 in the West Midlands and £745 in the South East.

71. The situation described above had its effect both on the amount of money available for household expenditure and on the ways in which that money was spent. For this purpose the statistics on household expenditure excluded involuntary items such as income tax and national insurance, and financial transactions such as savings, insurance, house-purchase and betting. With these exclusions, expenditure per head in the Region in 1963 was £6 11*s.* 0*d.* a week—appreciably lower than the national average of £6; only the Northern region and Scotland, where the tendency to larger households and lower individual incomes was more pronounced, showed lower figures. The proportion of household expenditure that went on alcoholic drink, tobacco, fuel and light, durable household goods, clothing and footwear was identical in the Region with the average for Great Britain, but the Region spent a slightly higher proportion on food and a slightly lower

on housing and transport and vehicles.

72. It is commonly thought that there is some relationship between the general standard of life and the proportion of income spent on food—that as income increases the proportion spent on food decreases. This belief is supported by examining the household expenditure of different income groups, by a comparison between the northern and southern regions at the present time, and by the history of falling proportions of income spent on food over the last decade. It must therefore be mentioned that, although the proportion of household income spent on food in this Region fell between 1953 and 1963, this proportion was still slightly above the national average at the latter date. The significance of this must of course be a matter for speculation in view of the many factors involved.

73. The general picture of the Region which emerges is, therefore, that of a community with little problem of employment, but with a smaller than average proportion of managerial and highly-paid jobs. The proportion of older people is a little lower, and that of children a little higher, than the national average, and the number of children has tended to restrict the pattern of spending by the parents. In fact parents are demonstrably still making sacrifices for their children.

74. It would be beneficial to the Region if future planning increased the growth of certain types of employment. The Region would gain by the addition of more professional opportunities, particularly where they were attractive to women. But purposive action must clearly depend on a full understanding of the jobs in which people are at present employed, and of the industrial structure which provides that employment. The future potential of various industries as well as the present position will be relevant.

People in Employment

75. When considering the jobs in which people are 'employed', the large numbers who work for no employer but who nonetheless contribute very materially to the economic life of the Region have to be remembered. There are nearly 26,400 agricultural holdings in the Region; some of them are no doubt run by managers, and others on a part-time basis by men with other employment, but the size of the total figure shows how unwise it would be to forget the 'self-employed'. To the farmers must be added many thousands of shopkeepers, professional men and the like. Indeed, as already noted, 'employed' people represent only about three-quarters of males over school age and less than half that proportion of females. This is a reservation to be kept in mind while the employment figures are being studied. (See also Appendices 13 and 15–26 and Figure 11.)

76. In 1963, 896,000 men and 468,000 women were employed in the East Midlands. Of the men, 34,000 were employed in agriculture, 111,000 in mining and quarrying, 378,000 in manufacturing industry, 84,000 in construction and 289,000 in other service industries. Of the women, 8,000 were employed in agriculture, 3,000 in mining and quarrying, 215,000 in manufacturing industry, 4,000 in construction, and 238,000 in other service industries. These figures, compiled on the statistical basis explained in Appendix 14, refer to the type of industry giving employment, not the occupations of the individuals—there were not 3,000 female miners!

77. Perhaps the most striking fact is that about one in eight of all the employed men in the Region in 1963 was engaged in mining and quarrying. The figure for Great Britain was about one in twenty-two. The numbers so employed had fallen substantially over the ten-year period 1953–63, both regionally and nationally, but whereas the national figure had come down by some 22%, the regional reduction was fractionally over 10%. This is largely a re-statement in figures of the fact that the coal mines of the East Midlands have been producing a larger share of the reducing total of national coal production; but productivity has been rising too, so that the total number of miners has been falling. The fact is, however, that mining remains one of the biggest employers of labour in the Region and that although its relative importance in the Region's life has been declining it has been doing so much more slowly than elsewhere.

78. The second significant aspect of the figures is the great importance of manufacturing industry in the Region. Taking men and women together, 43·5% of the employees in the Region were employed in manufacturing industry, as against 38·0% for Great Britain. It is this type of industry which is thought of most readily—though perhaps combined with mining—when the 'industrial areas' of the country are described. The comparable figure for employment in manufacturing in the South East was only 33%; it will be seen, therefore, that although the East Midlands is not densely populated, it would be a gross misunderstanding to regard it as a sort of rural enclave in the heart of the country. On the contrary it is highly industrialised.

79. Agriculture has a significant place in the life of the Region; about 3·1% of the total

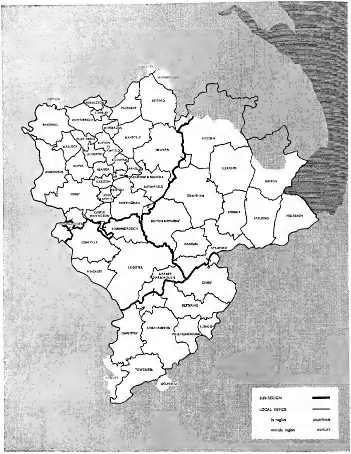

Fig. 11 Employment Exchange Areas

Boundaries of Ministry of Labour local office areas do not generally correspond with those of local authority areas and thus several local office areas straddle sub-regional boundaries. Local office areas covering parts of more than one sub-region are joined by a brace. Ministry of Labour sub-regional statistics (*Appendix 25*) relate to aggregates of figures for those local office areas which are named in each sub-region. The boundary of the Ministry of Labour region, as constituted in 1965, also differs from that of the planning region: Lincoln and Boston local office areas include part of the Yorks. and Humberside region and local office areas in other regions, named in italics, cover small parts of the East Midlands.

employees in the Region are employed in agriculture, forestry and fishing—though fishing in a Region with so little coast-line is obviously very small—as against 2·5% in Great Britain as a whole. (See Appendix 27.) Agriculture also gives work to large numbers of people who are not 'employees', so it remains very important to the Region.

80. The construction and service industries are, in relation to the national average, under-represented in the economic structure of the Region. The construction industry showed, in the ten years 1953–63, an increase in employees of 24% as against the Great Britain increase of 17%, but even so its share of total employment in 1963 was, in the Region, 6·4% as against

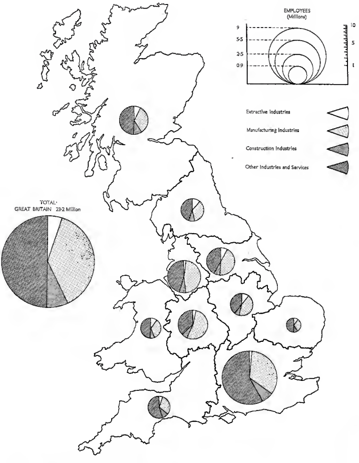

Fig. 12 Employment Structure by Planning Regions, 1966
The area of the circles represents the total number of employees employed in each planning region (based on Ministry of Labour boundaries, 1965) . the sectors show the distribution between broad industrial categories.

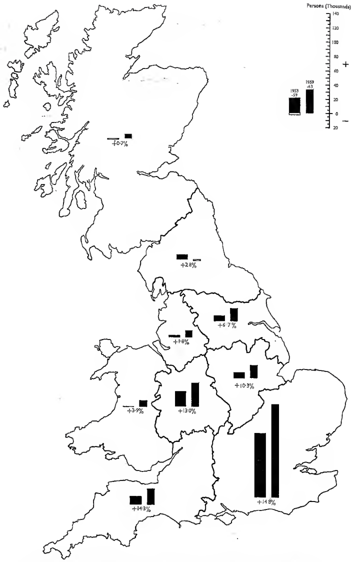

Fig. 13 Employment, Total Change by Ministry of Labour Regions, 1953–59 and 1959–63
The heights of the columns are proportional to the mean annual changes in estimated number of employees employed at mid-year and the widths are proportional to the length of the period. Thus, volume of total change is represented by the area of the columns. Percentage growth over the period 1953–63 as a whole is given in figures. The total increase 1953–63 in numbers employed in Great Britain was about 1,883,000 or 9·1%. See *Appendices 15–18*.

6·8% in Great Britain. In this industry, therefore, the Region was rather behind. The position in other service industries was very different. The proportion of the Region's employees engaged in service industries in 1963 was 38·6% as against the Great Britain figure of 49·7%; ten years earlier the proportions had been 34·8% and 46·1% respectively. The Region is therefore lacking in this type of employment and is not catching up perceptibly, but this is at least partly due to the geography of the Region; as it has no major port or tourist centre, it cannot have the associated service employment.

81. The general category of service industry covers a host of activities, from betting shops to university teaching. Transport, the distribution of gas, electricity and water, the whole range of the distributive trades, public administration and the financial services are all included. It would therefore be foolish, on the basis of the figures given above, to draw too many detailed conclusions.

82. The general picture of the Region is one of expanding employment. (See Figure 13.) Between 1953 and 1963 the numbers employed increased from 1,236,900 to 1,364,600, i.e. by 10%. Male employees in employment increased during this period from 829,400 to 896,400, i.e. by 8%, but female employees increased from 407,500 to 468,200, i.e. by 15%. The increase in the number of females, taken absolutely, was smaller than the increase in males, and the people in employment were still roughly in the proportion of two males to one female.

83. The increase in numbers employed between 1953 and 1963 was common to Great Britain as a whole, but the Region's percentage increase was larger than that of Great Britain (9%), the Region having expanded its employment more rapidly than the country as a whole, particularly in the last four years of the decade. (See also Appendix 28.) The major problem indeed has been that the number of jobs to be filled increased faster than the number of people to fill them. It was this that underlay most of the migration into the Region from other parts of the country; its effect was reduced by some movement of industry out of the Region to places where labour is less scarce. This movement was in part spontaneous and in part a response to Board of Trade policies; but in either case its effect was not only on the firms concerned; it also reduced the restrictive influence of labour shortage on the firms that remained. The Region is capable of providing work for all and more than all. Nonetheless we have noted that despite the great variety of employment in the Region there is some suggestion that certain industries are under-represented, and opportunities for some types of skill, particularly on the female side, could well be increased. The general level of income, real as well as in monetary terms, has been rising, and the amount of poverty—judged by the proportion of households in the lower income groups—is less than the national average. But the number of households in the highest income group is also below that average.

4 The Industrial Structure: Energy, Engineering and Manufacture

The Importance of Power

84. The industrial structure of the East Midlands is based on power (see Power Resources Map in pocket) and engineering. That a motor-car is a product of the engineering industry is obvious, but a pair of shoes or a woman's dress carry less suggestion of the machine, and a loaf of bread or an egg hardly remind us of the engineer at all. It is true, of course, that women wore shoes, ate bread and boiled eggs long before there were any engineers in the world. But the production of almost any of the articles consumed in quantity would be impossible in the quantities needed, and would demand a quite insupportable amount of labour, if it were not for the engineers and the power which drives the machines they build. This situation has been arrived at gradually, over several generations, and the fact that it is true today even of products like eggs and milk shows how fundamental the change has been.

85. It will be seen below how widely through the Region, and in how many varieties of technique and speciality, the engineering industry is represented. But machines are idle until there is energy to work them, so our first attention must be given to power. Atomic energy has only entered into the picture since the second world war, and however great its ultimate importance may be it has not at present made a decisive contribution. This country relies primarily on energy derived from mineral deposits of coal, gas and oil, using some of these products directly, whether in a raw or processed state, and some as a source of electric power. Most of the power actually used by industry is that of gas or electricity, apart from the energy oils used by vehicles, and within the foreseeable future that is likely to continue to be the case. The uncertainties are in the shares which gas and electricity respectively will claim, where and how gas will be produced and in the basis of electricity generation. These uncertainties themselves spring from our own inability to foresee just what reserves of gas and oil can be discovered, and where, and from the rapid development of power technology. The very strong and vital position of the Region at the present time is a fairly recent phenomenon; it could also prove to be temporary. What is known is that in the present state of technology and with the present levels of investment the Region has been and is very favourably placed. The scale of discovery of natural gas and perhaps oil under the North Sea is likely to confirm the conclusion.

The Coal Industry

86. The Region has a unique place in the nation's economy in making the biggest single contribution to its total energy supplies: in respect of coal (25% of national output); electricity (10% of total power station output capacity in Britain); and, small though it is, a large part of the country's production of crude petroleum. Unlike almost all other coal-producing regions, the East Midlands has little of the burden of time-expired, high-cost collieries which cause elsewhere such acute social and re-employment problems; on the contrary, within its bounds the big colliery–power station partnership is at its highest development, both technologically and in productivity, as shown by Bevercotes and West Burton respectively. Generally, the Region covers its high energy potential

beneath a widespread unspoiled rural scene, and dereliction is nowhere so serious as in the traditional coal mining areas. There are, however, areas limited in extent, but important in potential, where the legacy of mining is serious, as indicated in Chapter 9.

The Nottinghamshire–Derbyshire Coalfield

87. The exposed western part of the coalfield, in Derbyshire, was the first area extensively developed, but the great increase in coal output came with the sinking of new shafts in the hidden field in Nottinghamshire. The coalfield lies within an area roughly bounded by Chesterfield and Derby in the west, Worksop, Ollerton and Nottingham in the east, although mining is now over-stepping this eastern limit as it penetrates further into the concealed measures, and in the north the field continues unbroken into South Yorkshire. The boundary between the exposed and concealed fields approximates to a north–south line which passes through Ilkeston. In March 1966 there were 61 National Coal Board collieries on the field, and 10 licensed collieries, giving a total of 71 deep mines. The number of collieries has been declining for over a century, owing to closure because of exhaustion and to the amalgamation of neighbouring collieries. There has been a distinct eastward movement of deep mining across the exposed field, and a further movement from the exposed to the hidden coalfield.

The Leicestershire and South Derbyshire Coalfield

88. The output of this small coalfield was negligible until relatively recently, as markets were difficult to find owing to the greater proximity of other coalfields to the major industrial centres. Since 1939, however, output has risen from 4 million tons per annum to 6·9 million tons in the year 1965–66, as a consequence of a combination of factors. These have included the increased demand for coal during and after the second world war, and the field's ability to respond by drawing upon its considerable reserves, which are exploited more efficiently than almost any other comparable National Coal Board Area in the country. The field has important natural advantages which make for easy mining—the seams are thick, close together, and throughout the field lie at a shallow depth.

Productivity

89. The East Midlands is the most highly mechanised of the Coal Board's Divisions (some 92% of the coal is produced mechanically) and this has been achieved because of the accessibility of the seams. The latest technological advance is the success of ROLF (remotely operated longwall face) which is now being incorporated into a number of collieries in the Midlands and Yorkshire, and will be the staple coal mining method at the new Bevercotes pit, which is also to be studied for completely automated working using computer controls.

90. In the East Midlands Division of the National Coal Board (which does not quite coincide with the Planning Region) there are 76 collieries (March 1966) and the Division employs nearly 85,000 men and women, 78,000 at pits. Output in 1965–66, at 44·3 million tons, was over 26% of the country's deep-mined production of 173·5 million tons. Output per manshift, at 50·2 cwt., was well above the national average of 36·1 cwt., and this performance is by far the best for the country.

91. However, this picture hides the fact that in some of the traditional coal mining areas which are now being worked out, there has been a drastic fall in mining employment. Something of this trend can be observed on the exposed part of the Leicestershire and South Derbyshire field, but it is particularly marked on the western side of the Nottinghamshire–Derbyshire field, where mining activity tends to shift eastward as the seams on the western side of the field are worked out. In the area covered by the Chesterfield group of employment exchanges (Chesterfield, Clay Cross, Eckington and Staveley), the numbers employed in mining declined by over 3,000 or 20% over the five years 1959–64, while the Alfreton and Heanor Exchange areas both experienced a decline of over 1,500 or 18%. The National Coal Board is anxious to hold on to its labour force, as there is a continual need for miners in the eastern collieries; so miners displaced by closures in the west are offered employment in expanding pits further east. However, for social and economic reasons many miners are unwilling to make the transfer to a new area, preferring to seek alternative employment.

Markets

92. Coal of coking quality is produced in the East Midlands only around Mansfield, the area extending towards Chesterfield and Alfreton; coking plants are located south and south-east of Chesterfield, at Stanton and at Corby. Most of the output of the Nottinghamshire–Derbyshire field is either house coal or steam coal. The Leicestershire field also produces general-purpose coal, which is of rather low grade. Power stations take nearly half the combined output of the two fields, and will increase both their demand for tonnage and their share of the output. The power stations on the Trent are well placed to secure low-cost coal with low

transport costs. They alone seem enough to guarantee a working future for the East Midlands coalfields.

93. The main outlets for the East Midlands' output are the power stations (43%), industry (17%), the domestic market (17%), gas works (10%) and coke ovens (4%).

The Gas Industry

94. The Region is served by the East Midlands Gas Board whose area also includes Lindsey, and the Sheffield, Rotherham and Doncaster districts. It is not possible therefore to give exact regional statistics.

95. The East Midlands Gas Board employed 9,949 persons in March 1965, and although the majority were employed within the Planning Region, the minority outside it was substantial.

96. The industry is in the early stages of transition to oil-gas supply, though as yet preponderantly dependent on 'coal' gas coming from coke ovens (of the National Coal Board at Avenue and the steel works at Stanton and Scunthorpe) and the East Midlands Gas Board's own carbonisation plants of which the chief is Litchurch, Derby. The Board used 1·7 million tons of coal in 1964–65, half of it at gas works in the Region. Oil-gas will come in increasing quantity from the new Killingholme catalytic oil-gas plant—outside the Region on the Humber—which will have a final capacity of 200 million cubic feet per day (mcfd), roughly double the regional sales. The latest project in view is an oil-gas plant at Ambergate, to support the regional high pressure grid system, and to be connected to the methane grid. The initial capacity is placed at 100 mcfd.

97. The Gas Council's scheme for distributing imported North African liquefied gas was that at full development 10% of the requirement would be taken from the Council's supply. Regard has now to be given to North Sea gas which may prove to be available on a scale well in excess of the imported liquefied gas and will have the great advantage of freedom from the capital costs of transport in a refrigerated state. The Gas Council's pipeline to carry the gas from the landfall terminal at Spurn Head is to meet the other pipeline west of Ambergate, a focal point for the Board's own high pressure pipeline system. These developments have overshadowed the small gas field discovered at Calow just east of Chesterfield which, however, may have residual value as a stratigraphical storage for refilling.

98. Sales of gas in the Region (173 million therms in 1964–65) have risen by a third in the last ten years, and domestic sales by about 50%. Domestic sales are about 57% of the total; industrial sales 30%; and commercial and other sales 13%.

Electricity Generation

99. The Region is the area of greatest importance in the construction of new power stations for supply to the national grid, and there will be over 12,000 megawatts of generating plant operating by 1970, three-quarters of it in four new super stations on the Trent between, roughly, Burton upon Trent and Gainsborough. The former figure will represent one-sixth of the Central Electricity Generating Board's total plant capacity at that date. Present output from existing stations is over 25,000 million units a year, 15% of the Generating Board's output and more than double the annual rate of electricity consumption in the Region at present. The surplus is 'exported' largely to the London area.

Central Electricity Generating Board

100. The Region has thirteen stations in operation and three new super stations each of 2,000 megawatt capacity are being built: at Ratcliffe (two miles south of Long Eaton); Cottam (downstream of Newark); and West Burton (upstream of Gainsborough). A fourth is proposed, also on the West Burton site. At Drakelow a further station (1,450 megawatts) is well advanced and will operate with the first super-critical steam raising plant in a Central Electricity Generating Board station. It is unlikely that these will be the last of the coal-based power stations of the Trent Valley. Another interesting development is the joint power-heat arrangement at the Spondon station south of Derby, where the latest turbines exhaust steam to the adjacent chemical works for process heat use.

101. The new stations under construction will require between 15 and 20 million tons of coal a year, most of which will come from East Midlands collieries, using the 1,000 ton 'merry-go-round' trains. These pits are already supplying 20 million tons of coal to power stations, a little over half of which is for stations in the Region, principally High Marnham (1,000 megawatts—near Retford); Staythorpe (720 megawatts—Newark); and Willington (816 megawatts) and Castle Donington (627 megawatts) both near Derby.

102. Central Electricity Generating Board staff in the Region totals about 4,000. The new stations will add a thousand or more to this number. At the beginning of 1966, contractors' labour on the four super stations exceeded 6,000.

Electricity Distribution

103. The East Midlands Electricity Board is responsible for distribution, but its area of supply is considerably greater than that of the

Planning Region. It employs some 11,000 people in all.

104. The Electricity Board is responsible for supply to over a million consumers in the Region, probably the biggest being the National Coal Board who have adopted 'public' supply for almost all their collieries.

Iron and Steel: The Basic Industry

105. Iron-ore mining, and the manufacture of iron and steel and of steel tubes and iron castings, are all important industries in the Region.

Iron-Ore

106. Iron-ore is the second valuable mineral produced in the Region. Workings in the Northamptonshire field re-started in the middle of the last century, prompted by the declining availability of the 'coal measures' ore in the old iron-making areas elsewhere, and by the rapid railway development which made large tonnage movements economic.

107. By overseas standards Northamptonshire ore is low grade material, averaging about 30% iron content. Allowing for cyclical changes in the steel industry, the regional production has not fallen seriously—from 11,700,000 tons in 1942 to 8,784,000 tons in 1964. This is in proportion to the national fall in the use of 'home' ores in the face of increasing competition from overseas ores at near-coast steel works which make two-thirds of the total pig-iron.

108. Workings are now almost entirely opencast in the bedded deposits (Northampton Sand mainly) lying at shallow depth, running southwards from the Grantham area through Kettering and down to Northampton. After a century of exploitation, latterly with some of the biggest excavating machines in the world, any marked increase in the rate of extraction could involve underground mining. The reserves are said to be equal to 160 years' supply from 1970, at a production rate of 10½ million tons per annum. At present the labour force is a little over 1,000 men.

109. Much of the ore is used within the Region, but it is also transported to blast furnaces elsewhere, mainly the north east coast, the Scunthorpe area, West Midlands, the Sheffield area, Lancashire and Cheshire. About 20% of the output is despatched and rail movement is now being organised in diesel-hauled block trains (each carrying 1,000 tons of ore in 27-ton tippler wagons) making, for instance, the journey Wellingborough–Middlesbrough in fourteen hours.

Centres of the Iron and Steel Industry

110. The iron and steel industry in the East Midlands has two main centres, one on the Nottinghamshire–Derbyshire coalfield, and the other in Northamptonshire. Both developed from the exploitation of local orefields, but the major period of growth in the Nottinghamshire and Derbyshire areas, which also benefited from local supplies of coal, occurred in the middle of the nineteenth century, and that of the Northamptonshire area in the twentieth century. Within the Region the Northamptonshire output (mainly Corby) surpasses that from Derbyshire and Nottinghamshire.

111. The East Midlands has a large excess of pig-iron production over steel production. With the exception of Corby, most of the blast furnaces are not integrated with steel works, and much of the pig-iron output is used in the manufacture of iron products, e.g. in iron pipe making plants at Stanton (near Ilkeston) and Staveley (near Chesterfield). Employment in metal manufacture increased by 13% to 43,100 between 1953 and 1963. The iron and steel industry then employed 41,800 or 3% of the total employees, compared with 88,500 (3·9%) in the West Midlands, which also had 52,000 in non-ferrous manufacture.

112. **Nottinghamshire and Derbyshire.** The early period of the industry in this area was characterised by a large number of small works, each of which owned its own mines and collieries on the Nottinghamshire–Derbyshire field, but the use of coal from further afield, the replacement of wrought iron by steel, growth in size of plant and competition and mergers led to a steady reduction in the number of iron firms.

113. Iron production now survives at only two locations (Renishaw and Stanton). In addition to pipe casting on a large scale at Stanton, Staveley and Clay Cross, the industry in the Nottinghamshire and Derbyshire area undertakes iron and steel rolling and a considerable range of castings, pressings and forgings which are sent to consumers throughout the country.

114. **Corby.** The primary locating factor of the Stewarts and Lloyds Ltd. iron and steel works at Corby is the Northamptonshire orefield. Corby is situated in the centre of the field where extraction is easy and cheap and is carried out by opencast mining on a huge scale. That the iron and steel industry did not develop in the area until the twentieth century is due to a combination of factors, including the phosphoric nature of the Northamptonshire ores, which had earlier prevented their use in steelmaking, and absence of local coal. Today, ease of ore extraction and the integration of blast furnaces,

steel converters and rolling and tube mills make it possible for the Corby works still to produce steel economically from indigenous ore.

115. The bulk of the steel is retained for tube production at Corby, and it is in this branch of the industry that Corby is of national significance. Tubes are produced in three separate plants according to the quality of steel and type of product required—continuous weld mills and electric resistance weld mills utilising steel strip, and a plug mill producing seemless tubes from steel bars. In 1960 Corby produced some 600,000 tons of tubes, one-third of the national total. Not all the steel strip from the company's rolling mills is supplied to the tube mills. A quantity is sold to outside concerns, some of which are located in London, Birmingham, Wolverhampton and Coventry producing for the motor industry.

116. The growth of Stewarts and Lloyds Ltd. has been parallelled by that of Corby New Town, from a population of 1,350 in 1914 to 10,880 in 1939 and 45,000 in 1966. Local labour has not been sufficient to man the steel works and the company has recruited employees from other areas, in particular from Scotland.

117. **Other Locations.** The past few years have seen the closure of blast furnaces at Wellingborough, Kettering and Melton Mowbrey. But although the production of iron and steel in the East Midlands is now concentrated on three centres, Corby, Renishaw and Stanton, foundry work still continues in various other centres throughout the Region. Many of these foundries are highly dependent upon the motor industry as a market for their products. Important foundries in Derby, Lincoln, Wellingborough and the Leicester area produce castings for the motor industry; the Derby foundries also produce iron pipework and steam power plant, and those in the Leicester area also supply the local engineering industry. A noteworthy trend has been a decline in the number of 'merchant producers' of foundry goods, as previously independent foundries have been bought up by their customers.

The Metal Using Industries

118. The metal-using industries (Orders VI to IX of the Standard Industrial Classification, see Appendix 14) of the Region may conveniently be classified as:

a Agricultural, mining, quarrying and construction machinery;
b Machine tools;
c Textile and footwear machinery;
d Electrical engineering;
e Vehicles;
f Other engineering metal goods.

This classification is used as the basis for the description given below; it causes some statistical difficulties, but it takes account of the chief characteristics of the industry in the Region. Employment figures for particular sectors of industry are not available for the East Midlands Economic Planning Region, and those for the larger North Midland Region have had to be used in places. They have only been included where they convey the correct impression as to magnitude, but to avoid confusion they have been asterisked in both this and Chapter 5. (See also Appendices 19 and 20.)

119. The metal-using industries in the East Midlands employ 206,000 people, which is over 15% of all employees and more than a third of the number employed in manufacturing industry. This is somewhat less than the proportion—17%—of the employees of Great Britain working in these industries. Employment rose by 24% between 1953 and 1963.

120. The last decade has seen a relative decline in the older forms of engineering, such as agricultural and textile machinery, and a rapid expansion of more modern branches such as radio and electronic apparatus and aero-engines. This trend has involved a reduction in the relative importance of the heavy engineering based on the coalfield.

121. The metal-using industries are widely distributed throughout the East Midlands. Unlike primary iron and steel manufacture they are not, by and large, tied in their location to sources of raw materials and fuel, and have been able to locate themselves with more regard to customers and sources of labour. The industries have spread widely from their original centres, and have developed in rural towns and villages removed from sources of materials but with lower wages and cost of living, and a supply of labour from agriculture. They are also widely dispersed because of the diversity of the market which they supply.

Agricultural, Mining, Quarrying and Constructional Machinery

122. Historically, this branch of the industry developed as a result of local demand for its products. It is difficult to estimate the total employment in the Region of this group, but it is probably about 15,000*. Employment grew only slowly in the period 1959–63 and there was in fact a decline in employment in agricultural machinery. Manufacture of mining machinery is concentrated on the Nottinghamshire–Derbyshire coalfield, where there is a basic metal industry giving a good supply of raw materials, and firms such as Bonser Engineering Ltd. and Dobson Hardwick Ltd. have, as the result of the ready market pro-

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* North Midland. See paragraph 118.

vided by the Region's expanding coal mining industry, increased industry ancillary to coal mining. The agricultural machinery industry is widely dispersed, but there is a notable concentration in the country towns of Lincolnshire. Lawnmowers and other horticultural equipment are made in Derby and Hucknall. The manufacture of constructional and quarrying machinery is dominated by three large firms: Ruston-Bucyrus Ltd. of Lincoln, making mechanical excavators and cranes; Aveling-Barford Ltd., in Grantham, manufacturers of road-rollers and earth-moving equipment; and Frederick Parker Ltd. in Leicester, makers of concrete mixers. Apart from these three firms, however, units tend to be small, particularly in the agricultural machinery industry in Lincolnshire.

Machine Tools

123. Although it exists only on a relatively small scale in the East Midlands, the machine tool industry is one of the most rapidly expanding of the metal-using industries, employment in 1963 being 8,600.* The main concentration of the industry is in Leicester; here are to be found the largest firms, including Jones (A. A.) and Shipman Ltd., Alfred Herbert Ltd. and F. Pollard and Co. Ltd. Elsewhere, concerns tend to be small.

Textile and Footwear Machinery

124. The manufacture of textile and footwear machinery are notable examples of industries that have grown up in the same location as the industries to which they sell their products. The main centre of both is in Leicester, but footwear machinery is also made in Northamptonshire, while textile machinery manufacture extends through Loughborough into Nottinghamshire. Both industries are dominated by a few large firms. Employment in footwear machinery can only be estimated, but it is probably less than 5,000.* By far the largest firm is the British United Shoe Machinery Co. Ltd., of Leicester. Although textile machinery manufacture is concentrated in Leicester, there are important firms at Loughborough, Coalville, New Basford, Kegworth and Sutton-in-Ashfield. The machinery produced is mainly for hosiery, but also for man-made fibres and lace. The Bentley Engineering Group Ltd., whose main works are in Leicester, claims to be the world's largest manufacturer of knitting machinery and ancillary equipment. Employment in the textile machinery industry grew only relatively slowly from 1953 to a total of 10,200* in 1963.

Electrical Engineering

125. This is the fastest-growing industry in the metal-using group in the North Midland, employment having increased considerably between 1953 and 1963 to nearly 37,000.* Important sectors of this industry in the Region are electrical machinery (transformers, generators, etc.), telegraph and telephone apparatus, radio and other electronic apparatus and domestic electrical appliances. Manufacturing is largely in the hands of three large concerns: The Plessey Group (The Plessey Co., Ltd. in Towcester and Ericsson Telephones Ltd. at Beeston); The Brush Electrical Engineering Co. Ltd. of Loughborough; and Associated Electrical Industries Ltd. in Leicester, Lincoln and Corby. The industry is represented in a smaller way in most towns of the Region, although it is less widespread north of Derby and Nottingham. The manufacture of radio and television components is of particular importance in the Region.

Vehicles

126. The vehicle group of industries employs 54,000 in the East Midlands. This represents 4·0% of the total employed, which approximates to the national figure of 3·8%. Employment in the vehicle group increased by 18% over the decade 1953–63. Most of this increase was between 1953 and 1959 (the increase being negligible over the following four years), and was largely in motor vehicles and aircraft, while employment in railways remained static.

Motor Vehicles, Cycles and Aircraft

127. The motor vehicle industry of the East Midlands, unlike the aircraft industry, which produces complete aero-engines, and the cycle industry, is chiefly involved in the earlier stages of manufacture rather than in final assembly. Within these industries there are complex relationships with other manufacturing industries in the Region and also with assembly plants in other regions, and linkage with other manufacturing activities has been an important factor in their evolution. The importance of the motor vehicle industry in the East Midlands is as a supplier of materials and components to the main assembly areas, and thus proximity and accessibility to the West Midlands accounts for much of the growth and current importance of the industry in the Region. Another factor has been the suitability of the Region's industrial traditions for precision engineering work. There are specialised companies supplying braking systems, ball-bearings, silencers, and gears and gear-boxes, and many other smaller suppliers, especially in Leicester. Vehicle body-building is carried out by numerous firms, mainly around the large urban centres where there is a large local demand for commercial vehicles of all types. Caravan building is also found in several places.

128. The aircraft industry is centred on Derby, with the smaller associated centres of Ilkeston,

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* North Midland. See paragraph 118.

Hucknall and Long Eaton. Three other important engineering towns of the Region, Loughborough, Leicester and Northampton, also have a notable representation of aircraft employment. About four-fifths of the total employment in the aircraft industry is accounted for by aircraft engine manufacture. The Aero-Engine Division of Rolls-Royce Ltd. is located in the East Midlands, with the principal factory in Derby, subsidiary works at Ilkeston and Mountsorrel and flight testing at Hucknall. Aircraft assembly is carried out by Hawker-Siddeley Aviation Ltd. at Bitteswell, and this firm also has a repair shop at Netherfield and a components factory at Lincoln. Beagle-Auster Aircraft Ltd. at Rearsby make light aircraft. Component makers are located in Leicester, Coalville and Eckington.

129. The recent large-scale reorganisation within the bicycle and light motor cycle industry has increased the importance of the East Midlands over its main rival, the West Midlands; most of the Birmingham cycle factories have been closed and production concentrated in Nottingham. About 85% of the total production of pedal-cycles in Britain comes from the Nottingham factories of Raleigh Industries Ltd.

Railways

130. Railway engineering in the East Midlands comprises the manufacture and repair of locomotives, carriages and wagons both by British Rail (BR) and by private companies. The industry has suffered a considerable decline in employment, mainly due to the rationalisation programme of BR. The main works of BR and the only place in the Region where they manufacture locomotives is at Derby where new carriage construction, locomotive repairs and major carriage and wagon repairs are also undertaken. BR have also recently decided to concentrate all design, research and development work, except for engine testing and for electrified lines, at Derby, which has thus not only survived the recent reorganisation but, with the closure of railway workshops in other parts of the country, has emerged with increased national importance. In contrast to the concentration of locomotive facilities at Derby, minor carriage and wagon repairs, which at one time had to be available locally all over the railway network, are carried out on a small scale in various towns throughout the Region. Some of these works (e.g. Woodford Halse, near Daventry) have been or are being closed or reduced in size under the present programme of concentrating wagon repairs in fewer centres, or as a result of line closures. With one notable exception—the manufacture of diesel electric locomotives by Brush Electrical Engineering Co. Ltd. at Loughborough (associated with Hawker-Siddeley)—the private sector is devoted to the manufacture and repair of wagons. The heavy nature of this industry, and the demands of the collieries, are responsible for its concentration on the Nottinghamshire–Derbyshire coalfield where materials are available locally. Apart from Brush Electrical Engineering Co. Ltd. the firms concerned are all small.

Other Engineering and Metal Goods

131. The composite group of 'Other engineering and metal goods' includes a very wide variety of industries, of which only the most important can be mentioned. Industrial engines of various types are made by three large firms—The English Electric Co. Ltd. at Whetstone, Ruston and Hornsby Ltd. at Lincoln, and Blackstone and Co. Ltd. at Stamford. Bearings are made by several firms including British Timken at Northampton and Daventry, and Ransome and Marles Bearing Co. Ltd. at Newark and Nottingham. Containers are made by The Metal Box Co. Ltd. at Mansfield, Sutton-in-Ashfield and Leicester. Several firms specialise in pumps, while others produce typewriters, lifts and cranes, boilers, scientific instruments, wire, springs and domestic hollow-ware.

132. Although the overall pattern of the metal-using industries is not clear-cut, the following general features can be distinguished:

a the more sophisticated and lighter branches of the metal-using industries including electrical and electronic engineering, machine tools and textile and footwear machinery, are found predominantly in Leicestershire and Northamptonshire;

b Nottinghamshire and Derbyshire, apart from their county towns, tend to have a predominance of the heavier and more basic engineering and metal-working industries;

c the metal-using industries of Nottingham and Derby are more heterogeneous;

d the Lincolnshire part of the Region is characterised by a distinctive group of mechanical engineering industries, including agricultural and constructional machinery, industrial engines and vehicle components.

The Textile and Clothing Industries

133. The textile industry employs about 118,000 workers in the East Midlands. This represents 19·8% of the employment in manufacturing industry and 8·6% of the total employees in the Region, and 15·2% of the national employment in the industry. Only in the East and West Ridings and the North West, where textiles employ 10·2% and 8·0% of total employment respectively, is the industry of greater regional importance. The clothing industry has a labour force of 33,000* in the

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* North Midland. See paragraph 118.

Region, comprising 4·9% of the employees in manufacturing industry and 2·1% of the total.

134. Employment in textiles decreased slightly between 1953 and 1963 by 3½%. Over the period 1953–59 there was a substantial decrease of 10·0%. Two trends contributed to this: the rationalisation of production units and the installation of labour-saving machinery. During the period 1959–63 there was an increase in the labour force of 7%. A contributory factor was the heavy representation of the hosiery industry in the East Midlands. This industry, making currently fashionable goods such as casual knitwear, jersey fabrics and seam-free stockings, shared in the general rise in activity in the textile industries in the early post-second world war period, but has not fallen off since then, as have many other sections of these industries. By comparison with the regional increase, the industry nationally experienced a decline of 8% in its labour force over the period 1959–63.

135. The textile industry employs more females than males, but this female predominance is decreasing and the proportion of females in the labour force fell from 62% in 1953 to 60% in 1963. One reason is the shortage of female labour, which is causing men to be employed on jobs formerly done by women. The labour shortage has also resulted in branch units being set up in other regions and, as these branches tend to specialise in female-employing processes, leaving the male-employing jobs at the parent factory within the Region, this has also had its effect on the male–female ratio here.

136. Although the textile industry in the East Midlands is dominated by hosiery, the Region is also noted for the production of man-made fibres, narrow fabrics and lace goods.

137. The East Midlands has been the main hosiery district of Britain since the eighteenth century. The present century has witnessed a tendency towards dispersal, both within the traditional area of the industry and to other regions. Since the second world war, branches of East Midlands firms have been set up in other parts of the country, notably the East and West Ridings, Scotland, Northern Ireland and Lindsey. Some branch factories have also been established in other parts of the East Midlands, but this movement has not been on a large enough scale to modify the regional distribution of the industry to any great extent. This movement has many causes. Traditional skill and training are no longer so necessary with increasingly automated machinery, and the availability of female labour and a ready market have become more important factors. As machine making has become concentrated into fewer concerns, local skill in manufacture and repair has ceased to be of much importance. Increasing production of fancy hosiery has encouraged the development of small concerns throughout the country. Most of these goods are produced from already dyed yarn and there is little advantage in locating a project in an area with ancillary trades. Another major factor is the relatively small amount of capital needed to establish a business—this helps to explain the fact that there are a large number of small concerns in the industry.

138. The main hosiery district in the East Midlands consists roughly of a rectangle running north and south, about fifty miles long and up to twenty miles wide, with Leicester, Nottingham and Mansfield forming the eastern boundary. It includes a number of towns and villages, especially in the industrialised valleys of the Erewash and Soar, such as Long Eaton and Loughborough; Matlock, Derby and Hinckley are roughly on its western boundary. The modern industry produces a wide range of articles. Knitted garments made in Leicester include stockings and socks, underwear, outerwear, gloves, scarves, sportswear and infants' clothing; and in addition to wool, cotton and silk, synthetic yarns such as rayon and nylon are very extensively used. Production in other centres is similar, although perhaps nowhere else is the range so wide as in Leicester. Loughborough specialises in the dyeing and finishing trades. The industry in Hinckley is concentrated on the production of stockings, and it was unofficially estimated in 1962 that 60% of the country's seamless stockings were made in the town. The most flourishing sector of the industry is the production of underwear and outerwear. Production of socks and stockings of natural fibres has been affected by competition from man-made fibres, while a decline in total demand due to the better wearing qualities of man-made fibres is reflected in reduced production of all types of socks and stockings except women's nylon stockings. The effect of competition from imports has been severe for some goods, especially knitted gloves.

139. Between 1953 and 1963, employment in the hosiery industry increased only very slowly to a figure of 75,000. As in textiles as a whole, this trend concealed a decrease in employment up to 1959, and some increase thereafter. Despite the present prosperity of the industry, there are fears for the future. This is especially true of the seam-free stocking trade, because here technical developments are taking place at a particularly rapid rate. These include the introduction of multi-feed knitting machines and the development of automatic machines for the part-knitting processes, and it is widely

held that in future a substantially smaller labour force will be needed to maintain a given level of output. Another danger is that a change of fashion could drastically reduce the market for seam-free stockings.

140. The majority of firms in the hosiery industry are of small or moderate size. According to the 1958 Census of Production there were 604 firms in the industry with 25 or more employees. But of these, 368 employed less than 100 people each and only 15 more than 1,000 each. These 15 accounted for a quarter of the industry's output. The East Midlands has a majority of the large firms in the industry, of which the most important are N. Corah (St. Margaret) Ltd., Wolsey Ltd., Meridian Ltd., and Mansfield Hosiery Mills Ltd. These large firms are characterised by each having a number of units scattered throughout the hosiery district.

141. To sum up, the hosiery industry has benefited from a willingness to accept changes, and has done well compared with the rest of the textile and clothing industries. Principal factors have been the introduction of new machinery and the use of new man-made fibres. Employment has grown only slowly, but with increased productivity total production is rising in value, although all sectors of the industry have not shared equally in this growth.

Man-Made Fibres

142. The large-scale production of man-made fibres, carried on by British Celanese Ltd. and associated companies (now subsidiaries of Courtaulds Ltd.), at Spondon, near Derby, has grown up in the place of Derby's traditional silk industry. Spondon is a major centre for acetate yarn (rayon) production, and weaving, warp-knitting, yarn processing, fabric printing and dyeing are carried on there. In addition, vast quantities of chemicals, both for man-made fibres and for plastics, are produced. A recent development at Spondon is the production of the new fibre Nylon-6, together with the processing of the basic raw material used in its manufacture. Spondon also has extensive research and development facilities. This large-scale production of man-made fibres is of particular importance to the Region in that productivity in this industry is much higher than in textiles as a whole.

Narrow Fabrics

143. The production of narrow fabrics, especially elastics, is important in several towns in the Region, including Derby, Long Eaton and Loughborough.

Lace

144. Nottingham has a remarkable concentration of the country's lace industry. This is, however, declining in importance and is now much smaller than the hosiery trade. The 'Leavers' section of the lace industry, which consists for the most part of small firms and which is localised to a considerable degree in Long Eaton, has been declining for some time, owing to the increasing use of the inferior but cheaper 'Raschel' for edgings and other work.

Clothing

145. The making-up of clothing as one of the processes of the hosiery industry has been discussed above, but the manufacture of clothing in other fabrics is also of importance in various towns in the Region, including Nottingham, Northampton, Leicester and the Rushden–Kettering area.

The Footwear Industry

146. The East Midlands Region has been the chief centre of the footwear industry since it became concentrated in specialised areas in the early nineteenth century. Despite some reduction in recent years in the number of factories operating, and a steady decline in employment, the East Midlands is responsible for 46% of the total national employment in the industry. In 1963 footwear employed nearly 51,000* in the Region, a decline of some 20% since 1953. But footwear manufacture still occupies an important place in the employment structure of the Region. In 1963 the industry employed 3·2% of all employees in the Region, and 7·5% of those in manufacturing industry. The proportions for Northamptonshire and Leicestershire, where the industry is concentrated within the Region, were much higher.

147. The Northamptonshire footwear towns are, in general, dependent upon the industry to a far greater degree than their counterparts in Leicestershire. In all the Northamptonshire footwear centres employment in the industry is high and in some towns footwear and its ancillary industries employ well over a quarter of the industrial labourforce. The situation in Leicestershire is rather different, the footwear industry frequently taking third place after engineering and hosiery. One obvious implication is that any general decline in employment in the industry would be likely to have its most marked effects in Northamptonshire.

148. In Leicestershire the industry is divided fairly equally between the city and the rest of the county, so that Leicester is the most important single centre. In the remainder of the county, the Hinckley–Barwell–Earl Shilton district is important and the industry is also well developed in Anstey, Sileby and Syston to the north of Leicester, and Wigston to the south. Northampton does not dominate its county's footwear

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* North Midland. See paragraph 118.

industry to the same extent as does Leicester. In Northamptonshire the county town is obviously important, but the main centre of gravity of the industry lies further east in a series of small towns and industrial villages in the Nene and Ise Valleys. Here Kettering and Rushden are the two most important footwear towns, but the industry is of considerable significance in Wellingborough, Higham Ferrers, Desborough, Irthlingborough, Raunds, and a large number of smaller settlements.

149. There is a marked difference between Leicestershire and Northamptonshire in the types of footwear produced. Similarly there are differences between the centres in each county, the various towns and villages tending to specialise in their production. Northampton itself produces chiefly men's high-class footwear and there is a general emphasis on men's footwear throughout the county as a whole. Men's medium and lower quality shoes are produced at Kettering and Higham Ferrers. Rushden and Wellingborough tend to concentrate upon cheaper footwear. Other specialisations include footwear for the armed services (Raunds), farming boots, miners' safety boots and other protective footwear (Wollaston and Bozeat) and slippers (Wellingborough). Important firms in the area include many well-known names. Leicester specialises in the production of women's and girls' shoes, and these are almost entirely of medium quality. The other Leicestershire centres also tend to concentrate on women's and children's shoes, although in recent years the smaller towns in the county have come to produce a substantial quantity of men's footwear.

150. The footwear industry has suffered for some time from a shortage of labour, especially female labour. The methods used by the industry to overcome this problem were very similar to those used in the hosiery industry. Immediately after the second world war there was a revival of domestic outworking, and greater use was made of part-time workers, but neither of these methods proved popular and it was found that the only satisfactory solution was to open branch factories. Most of these branches were located either within or bordering the East Midlands.

151. Within the last ten years marked advances in footwear technology have led to fundamental changes in the industry's methods and organisation. Simplification of manufacturing, mainly through the widespread use of adhesives and the introduction of moulded footwear—thus reducing the need for nails, tacks and stitching—coupled with the use of new materials, have made possible the adoption of mass-production techniques. The introduction of conveyors, work transporters and automatically controlled drying equipment has helped to reduce process times from days to hours. These innovations have tended to lead to a concentration within the industry, a more intensive use of plant and machinery and to more efficient use of labour. As a result, national production increased steadily, despite the decline in the labour force, from 166 million pairs of footwear in 1958, to 202 million in 1964, with each intervening year showing increased production with the exception of the 'depression year' of 1962.

152. Even more recently the increasing use of plastics in ladies' shoes, and the growing competition for labour from new industries, have accelerated the rationalisation of the industry. A notable example of concentration within the industry is the British Shoe Corporation Ltd., which in 1962 controlled 8% of national production, mainly in Kettering, Leicester and Northampton. However, despite the trend represented by the British Shoe Corporation Ltd., most firms in the industry are still of small or moderate size. Of 457 firms in the country as a whole employing 25 or over in 1958, 226 employed less than 100 and a further 192 less than 500. Only 14 firms employed more than 1,000, although these accounted for 32% of net output.

Tobacco, Chemicals and Rubber

153. There are other industries of importance to the Region which, because of their lack of complexity, may be referred to briefly. These are as follows. Tobacco and cigarettes are produced in Nottingham by John Player and Sons Ltd., one of the largest employers in the city. The Boots Pure Drug Company Ltd. of Nottingham produces pharmaceuticals and chemicals. British Celanese Ltd. at Spondon produces chemicals and plastics used in the manufacture of artificial fibres and in a great variety of other applications. Various firms also manufacture chemicals in Loughborough and Derby and rubber, artificial rubber and plastics in Leicester.

Summary

154. The main manufacturing belt in the East Midlands runs south from the Nottingham–Derby area into Leicestershire, and the majority of the metal-using and textile industries are concentrated in this area. However, a considerable part of manufacturing employment in the Region is located away from this belt, in areas where manufacturing is often a less important element in the employment structure, but which, nevertheless, contain a number of subsidiary centres with a high proportion of the working population employed in manufacturing. The

mining, metal-producing and footwear industries have their major centres outside the Nottingham–Derby–Leicester manufacturing belt, to the north on the Nottinghamshire–Derbyshire coalfield and to the south in Northamptonshire. The diversity and comprehensiveness of the Region's manufacturing industries go a long way to explaining the prosperity and durability of the Region's economy.

5 The Industrial Structure: Agriculture, Construction and Service

Agriculture

155. The lively and prosperous development of manufacturing industry must not be allowed to obscure the contribution which agriculture has made and is making. It represents a very significant part of the economy.

156. There are about 2½ million acres of agricultural land in the Region, representing about 10% of the total agricultural land in England and Wales. The Region has upwards of 15% of the England and Wales acreages of wheat, potatoes, sugar beet and green vegetables, and farms in the Region carry about 7% of the dairy cows and heifers in England and Wales and about 9% of other cattle and calves.

The General Picture of Agriculture and Horticulture

157. There are some 26,400 agricultural holdings in the Region (of which probably about 14,000 are full-time farm businesses). In 1965 these holdings comprised 1,244,000 acres of crops and 1,195,000 acres of grass, including 46,000 acres of rough grazing, a higher proportion under crops than in England and Wales as a whole where the proportion is about one-third. They carried 945,000 acres of corn and nearly 224,000 acres of sugar beet, potatoes and vegetables and other horticultural crops; over 730,000 head of cattle; just under 1,170,000 sheep; over 420,000 pigs; and over 8½ million poultry. In round terms, half the total production came from arable crops and half from livestock, including milk (which represented about 7% of milk produced in England and Wales) and other livestock products.

158. The broad pattern of farming systems ranges from intensive arable production in Holland, Kesteven and Rutland, where extremely fertile soils are derived from the peat, silt, chalk, limestone and alluvial soils, and in north Nottinghamshire where the soil is very light sand, to mixed arable and livestock farming on the heavier soils in Leicestershire and Northamptonshire, and to the grass dairy farms and hill country of Derbyshire. At one extreme by far the greater part of production in Holland comes from arable crops; at the other extreme most of the production in Derbyshire consists of livestock and livestock products.

159. Horticulture is less prominent than in some parts of the country, but large quantities of vegetables, flowers and other horticultural produce go from the eastern areas, particularly Lincolnshire (Holland), to the markets of the industrial centres and to the food processing firms. Two features of horticultural production in the Region are, however, of national interest. These are the large-scale production of rose bushes on the keuper marl soils of Nottinghamshire and Leicestershire, and the production of flower bulbs on the silts of Lincolnshire (Holland) around Spalding.

160. Of the 26,400 agricultural holdings in the Region, only about one-third exceed 100 acres, though these account for about four-fifths of the agricultural land in the Region. Many of the smallest holdings are, in fact, only accommodation land, or provide only part of the income of the occupier. But the actual acreage of a holding is not by any means the sole criterion in determining the size of the business or its efficiency. In the county of Holland for example, where 57% are under twenty acres, many small-size farms are devoted to intensive horticultural production which requires a high degree of

investment in labour and working capital and produces a high gross return per acre. Indeed, throughout the Region there are efficient full-time farm businesses on holdings below 100 acres. Nevertheless, there is a general trend towards bigger farms and the smaller full-time businesses are diminishing steadily.

161. The number of employees in agriculture, forestry and fishing in the Region was 42,000 in 1963; the vast majority were employed in agriculture. It must not be forgotten that agriculture also provides the livelihood of a great number of farmers working on their own account.

162. Since 1955 the number of regular full-time workers has fallen by about a third and the number of regular part-time workers by about a fifth. One of the benefits to the country as a whole of the steadily increasing efficiency and mechanisation of agriculture has been the release of labour, both small farmers and employees. The steady reduction of man-power does, of course, present some difficulties. It is not easy to retain skilled farm workers in areas close to urban development and in places where there are opportunities for other kinds of employment.

Ancillary Industries

163. Many of the urban areas of the Region depend very largely, directly or indirectly, on agriculture for their existence. There is, however, considerable export of agricultural produce from the Region and the amount of actual produce processing carried out is smaller than might be expected, partly because there is a concentration of plant in the north of Lincolnshire, which is outside the Region.

164. However, the disposal of animals has to be centralised from farms and there are some 28 cattle markets in the Region with an annual throughput of fatstock valued in very round terms at £20 million. This is exclusive of the animals being sold as stores, the business in which is extensive but for which figures are not readily available. There are about 300 slaughter-houses, ranging from large private and public establishments to small one-man businesses. The production of bacon is carried on at 12 factories in the Region.

165. The bulk of milk production is dealt with in the Region's 70 plants and depots. There are 35 egg packing stations in the Region and 12 major poultry packing plants. In Nottinghamshire, especially, there is substantial broiler chicken production.

166. There are numbers of canning, dehydrating and preserving plants in the Region and the canning of fruit and vegetables is an important industry in Lincolnshire, particularly in Holland. It mainly employs females and there is a considerable seasonal fluctuation in the labour force. To meet this, women are transported to work over wide areas and are brought in from other areas and abroad.

167. Sugar beet to the value of some £7 million is processed at five factories: at Colwick, Kelham and Spalding, which are in the Region; at Bardney, which is on its north-eastern border; and at Peterborough. Two of the major potato crisp manufacturers have plant at Corby and Lincoln.

168. Large quantities of fresh vegetables and potatoes, particularly from South Lincolnshire, are exported to other parts of the country either for sale as fresh or for processing. Nottingham and Leicester have major fruit and vegetable markets catering for the distributive trade in the Region and there are smaller markets in Derby and Lincoln. There is also a large bulb market at Spalding for both home and imported produce.

169. There are 34 cereal processing mills in the Region; but a very large part of the grain produced in the East Midlands is sent for processing to other parts of the country. The distribution of grain is in the hands of corn and agricultural merchants who are also the major source of supply to farmers of agricultural requisites (fertilisers, feeding stuffs etc.).

Fisheries

170. There is no major fishing port in the Region; but the corner of the Wash off Holland contains a small but locally important fishery. The value of landings of fish at Boston and Fosdyke totalled nearly £77,000 in 1965 and consisted mainly of shrimps and other shellfish from grounds controlled by the Eastern Sea Fisheries Committee. There are 28 boats regularly fishing these grounds.

The Construction Industry

171. Ministry of Labour figures show that in 1963 the construction industry employed some 88,000 people in the East Midlands. Of these, nearly 11,000 building trade operatives were employed by local authorities, mostly on the maintenance of houses and other local authority buildings, and on road and street repairs. A minority was also employed on new construction including housing. More than 4,000 operatives were employed by certain public utilities. In addition many of the major industrial firms in the Region retained a nucleus of building trade operatives for small works and general maintenance.

172. In addition to employees there were some

5,900 working principals. There were in fact approximately 1,450 firms in the Region with working principals only, as well as 4,100 with employees. It can be seen that the average size of a firm is very small; if the firms without employees are included, the average size is less than twelve, if they are excluded it is still only about fifteen. Of the 4,100 firms with employees, over 3,000 had ten or less and only 28 had 250 or more.

173. The manner in which this labour force is deployed over the different types of work to be done varies in detail from month to month, as contracts are entered into or completed; but there is over any period a pattern which is likely to be of importance when considering the industry's potentialities. In the North Midland in April 1964, just under half the labour force of construction firms was employed on housing; about two-thirds of this on new housing and one-third on maintenance. The large numbers of construction workers with local authorities were employed mostly on maintenance work rather than on construction of new houses.

174. Up to another 20,000 operatives were employed on public works—three-quarters on new works and a quarter on maintenance. Around 20,000 were similarly employed in the private non-housing sector, three-quarters of them again on new works. New industrial work accounted for rather fewer workers than non-industrial work, even when all housing and public works are excluded from the comparison.

175. It is estimated that productivity in the site labour force of this industry is growing at 5% a year; the national organisation of the industry, combined with constant changes in the deployment of its units, makes it difficult to arrive at a comparable figure for productivity in the Region. Such conclusions as can be drawn from the numbers employed and the value of contracts do, however, lead to the view that productivity in the Region is rising at a rate certainly no smaller than the national. It must be emphasised, however, that this rise relates solely to new construction; it is very much more difficult to arrive at a productivity figure for maintenance work, and all the indications are that it is rising much more slowly. This indeed is what is to be expected in a field where the labour content is necessarily so much higher and the scope for mechanisation so much smaller, but since over one-quarter of the industry's available labour force is engaged on maintenance work, this does represent an important limiting factor.

176. In view of the likely future demands on the industry a word must be said about labour supply. Firms employ both craftsmen and unskilled men, the ratio being about three of the former to two of the latter. This ratio may well change in the future, and indeed the increase in industrialised building is altering not only this but the skills required. The demand for craftsmen in the industry has exceeded supply in most of the main crafts during recent years. The supply of craftsmen is maintained principally through apprenticeship. The number of apprentices in the Region in September 1964 was 8,160, which is not very far from the appropriate figure to maintain the present numbers of craftsmen in total, but the position varies for individual crafts. The numbers of apprentices for the less popular crafts of bricklaying, slating and tiling and the like gave rise to some concern.

177. Firms in the Region are playing an active part in increasing productivity by the use of building systems, particularly for certain types of public building, such as schools, and their use for housing for public authorities seems to be increasing fast. In general, however, builders of private housing have been reluctant to experiment in this way, and the use of these techniques in other parts of the private sector has been at best sporadic. Large-scale regional development may well depend to a considerable extent on breaking down some of this conservatism.

Extractive Industries

178. The two major extractive industries—those of coal and iron ore—have already been described (see Chapter 4). There are, however, others of great importance to the building industry and another important group used by the metallurgical and other industries.

Sand and Gravel

179. Among those supplying the building industry, pride of place must go to the extraction of sand and gravel. The demand for these aggregates has been mounting very rapidly—the Region produced about 9¾ million cubic yards in 1964 compared with just over 6 million cubic yards four years earlier—and past projections of the increase expected have been constantly raised and as constantly proved to be underestimates.

180. There are about 100 sand and gravel undertakings in the East Midlands Region at present and their output represents approximately 10% of the production for England and Wales.

181. Most of the regional production is from the Trent Valley Gravel Region which extends outside the Planning Region. In successive years from 1960 to 1964 the part of this 'gravel region' within the Planning Region has contributed 3·9 million, 4·5 million, 4·8 million, 5·7

million and 7·0 million cubic yards of all types of aggregate to the national total and it seems likely that, in view of the high quality aggregate available, it will become increasingly important as supplies in the Thames Valley area become exhausted. The new estimates of demand published by the Ministry of Public Building and Works in August 1965 suggest that this Region will need to produce annually more than double the 1964 output by 1975–80. If production is to be increased at this rate it is probable that over 9,000 acres of gravel land will have to be worked during the next twelve years. A study of the available resources of gravel is being undertaken by the Ministry of Housing and Local Government.

Limestone

182. The quarrying of limestone is also increasing rapidly owing to the demand for high quality road stone. Other major uses are in the construction, chemical and steel industries, while some is also used for agricultural purposes. Two-thirds of the output comes from the carboniferous limestone of the Peak District of Derbyshire and a further eighth from the Breedon and Cloud Hill in Leicestershire. Most of the remainder comes from the younger limestone of South Lincolnshire, Rutland and North Northamptonshire. Production reached 5·6 million tons in 1963, an increase of 64% in five years. This was just under 14% of the total limestone output of England and Wales.

183. One of the main problems associated with limestone working, which may well be accentuated in future, is the conflict with amenity. In Derbyshire, a considerable proportion of the county's production comes from quarries within the Peak District National Park. Derbyshire's importance as a source of limestone lies in its proximity to the markets of the surrounding industrial areas.

Dolomite

184. Workable deposits of almost pure Dolomite suitable for refractory and chemical purposes are rare and of strategic importance. Limited deposits occur in Derbyshire and Leicestershire but are at present only being worked for those purposes in the vicinity of Whitwall, near Worksop.

Igneous Rocks

185. The Region is one of the country's principal sources of hard igneous rock, used as high quality roadstone. The main centre of production is the Charnwood Forest area of Leicestershire, which has been defined in the Leicestershire Development Plan as an area of special landscape and scientific value. In 1954 reserves in Leicestershire then available to the industry were estimated to be sufficient for forty years, at an eventual annual output of 2·5 million tons, but in 1963 output had already reached 3·3 million tons, about 40% of the English production. These are the nearest igneous rock quarries to South East England and it is nationally important that adequate supplies of stone should continue to come from the area.

Bricks

186. Clay and shale reserves in the Region are very large and quarrying is widespread. Output in 1963 was 1·6 million tons, an increase of two-thirds in five years. Most of the production went into the manufacture of bricks and tiles. Regional production of bricks of various types totalled 353 million in 1963 and rose to 431 million in 1965.

Plasterboard

187. The annual production in the Region of gypsum, the main constituent of wall plasters and plasterboard, has risen to about one million tons, or half the England and Wales total production. The mineral, which in its calcined state forms plaster of paris, is worked chiefly in Nottinghamshire by opencast methods in a belt extending some twelve miles south-west of Newark, and by underground mining between Gotham and East Leake. The British Plaster Board (Holdings) Ltd. factory at East Leake is responsible for a large part of the total national production, and there is another important plasterboard factory at Staunton in the Vale, near Newark. Reserves of gypsum are substantial, but with the increasing rate of demand extensions of the areas worked will be necessary.

Cement

188. The growth of industrialised building and the extension of Britain's motorway system in recent years has resulted in an unprecedented demand for cement. Production has increased substantially and the two undertakings in the East Midlands Region have each contributed to this. They are the Associated Portland Cement Manufacturers Ltd. works at Barnstone in Nottinghamshire, and the Ketton Portland Cement Company Ltd. works at Ketton near Stamford. The former company's works at Hope in Derbyshire are just outside the regional boundary.

Minerals for other Industries

189. Silica and moulding sand, used in the glass-making and metallurgical industries, are quarried in Nottinghamshire, Northamptonshire and Derbyshire. Fireclay is found in the coal measures, the most famous deposit being the Bottle Clay of the Swadlincote area, where a considerable proportion of the country's sanitary ware and salt-glazed pipes is produced. The manufacture of refractory products,

stoneware, earthenware and terra cotta ware is carried on where there are deposits of suitable clays.

190. The ancient lead mines of the High Peak area are still worked, but now largely produce fluorspar, used in the chemical and steel industries; barytes, used as a high density filler in the manufacture of such items as paint, paper and linoleum; and calcite chips, used chiefly by the building industries. The Region is the source of between a half and three-quarters of the total supply of these materials in England and Wales.

The Service Industries

191. The part which the service industries play in the industrial structure is much smaller in the East Midlands than in the country as a whole. In 1963 there were 526,400 employed in these industries in the Region; this represented 38·6% of the total numbers employed, compared with 49·7% in Great Britain as a whole.

192. The difference between the proportion of services in the East Midlands and in the country as a whole is largely explained by

a The high concentration in London of governmental services, insurance, banking, finance and many other services, especially headquarters branches. A related factor is that the East Midlands does not contain a provincial centre for these services comparable to Birmingham, Manchester or Edinburgh, and it is therefore probable that some regional services for the East Midlands are supplied from London and perhaps Birmingham.

b The East Midlands' lack of services which are directly and indirectly associated with the great ports.

c The East Midlands' small part in the tourist industry.

193. Employment in the service industries increased rapidly and steadily between 1953 and 1963, and the discrepancy between the East Midlands and the country as a whole has lessened somewhat. The growth regionally during the period 1959–63 was 20% compared with the Great Britain figure of 15%. A notable exception to this was transport and communications, where employment decreased over this period by 3% as a result of the contraction of railway employment.

194. Service employment is distributed throughout the Region, but in certain towns the services employ proportionally more, especially in the rural agricultural districts, e.g. Retford, Sleaford, Melton Mowbray and Bakewell. The coalmining areas tend to have the lowest proportions in service occupations, with manufacturing areas occupying an intermediate position. Of the five county towns, services employ proportionally more in Lincoln and Northampton than in Nottingham, Derby and Leicester.

Distributive Trades

195. One of the most important service industries is distribution. In mid-1963 this industry employed in the East Midlands about 150,000 persons, of whom approximately 75% were employed in retail distribution.

196. Study of retail distribution is helped by the Board of Trade's Census of Distribution. This has the advantage of including 'self-employed' as well as 'employed' persons, and in an industry which includes the corner shop as well as the multiple stores this is clearly vital. On this basis, which is of course different from that used for the figures in the previous paragraph, about 4% of the total population of the North Midland in 1961 were engaged in retail distribution, slightly less than the national proportion. Further statistical information appears in Appendices 31 and 32.

197. The structure of the retail distribution industry is largely influenced by the size and spread of population. The absence of a major conurbation in the Region and distances involved have resulted in a greater proportion of small neighbourhood shops and fewer or smaller department stores than in some other regions. Conversely, North Midland shops served on average a smaller number of people than in the country as a whole. Nationally, the 1961 census revealed a declining trend both in number of establishments and employment, but both showed an increase in the North Midland, where the opportunity—or incentive—to form larger units had clearly been less obvious. Despite the above conclusions, the Nottingham–Derby–Leicester complex with its large department stores and its specialist shops undoubtedly fulfils many of the functions which elsewhere are provided in the conurbations. In 1961 the shops in these three towns took about 30% of the regional turnover, although the towns had only about 20% of the population. Obviously they served not only their own populations and those of the contiguous built-up areas but in some degree a much wider area.

198. As income per head in the North Midland was below the national average, it is not surprising that retail turnover per head of population in 1961 was also below average. In terms of sales per person engaged, the difference was much less, since in the Region rather fewer people are involved in proportion to the population.

199. It will be appreciated that the above figures refer to the North Midland Region instead of the East Midlands and are already some five years old. The retail distribution industry has not stood still in this period, which has seen the appearance of many towns altered by changes in their shopping centres; and an experiment in 'out-of-town' shopping near Nottingham may well be setting a pattern for the future. Although some of the factors which influenced the position in 1961, such as geography, town size and personal income, will continue to be influential, much more information is required to give an accurate picture of what is happening and what could and should happen in this industry.

Other Service Industries

200. The very wide variety of activities covered by the remaining service industries is such that a full description would be almost endless. A few notes on the more important of them—in terms at least of numbers involved—must suffice.

201. Professional and scientific services formed a group where the increase in employees was rapid, the mid-1963 figure being nearly 115,000. Over half this total was in educational services and a third in medical and dental services (over two-thirds of the employees in both sectors being female). The balance was divided fairly evenly between accountancy, legal, and other services (including scientific services which are not separately identifiable).

202. In mid-1963 the number of employees in transport and communications was 72,000. Just over one-third were in each of rail and road transport, the latter being evenly divided between passenger transport and haulage. About a fifth were in postal services and telecommunications, the small balance covering sea, inland water, air and miscellaneous transport services and storage. About one-sixth of the people in these services were female, one-third of these being in postal services and telecommunications. A fuller account of transport is given in Chapter 8.

203. In the Region in mid-1964 about 23,000 people were concerned with national government service and about 41,000 with local government; 35% of the former, but only 22% of the latter, were female. Together these services comprised about 4·4% of the Region's employees.

204. Insurance, banking and finance services continued to increase as a proportion of employment and in numbers, which were 19,000 in mid-1963.

205. Miscellaneous services in the Region employed about 85,000 persons, over half of them female. The largest concentration, mainly male, was employed in motor repairs and distribution. Considerable numbers, mainly female, looked to catering, hotels, etc. for employment. Other services well represented in the Region are hairdressing, dry-cleaning and laundries, which all have a very high female content. Significant numbers are also employed in entertainment industries. About a third of those in sport and half of those in other entertainment industries were female.

Conclusion

206. This description of the industrial structure demonstrates the vigour and wide variety of the economy of the Region as a whole, and of its major component parts. It is this which enabled it to escape the depths of the depressions in the past, and is likely to be its greatest strength in the future. The Region has seen industries rise and decline in the past, but no one of them has been important enough to damage its recuperative power. The description has of necessity been largely a static one, but in the next chapter the dynamic aspects will be treated more fully.

6 The Changing Scene in Industry

Sources of Information

207. The description of the industrial structure of the East Midlands in earlier chapters was that of a past situation. Before we can attempt to decide whether our low rates of unemployment are likely to continue, and whether people are in general employed in the most productive ways, it is necessary to examine the changes which are taking place and seem likely to continue. We need to know which industries are so buoyant that they will be able to absorb the extra man-power we expect later in the century and which areas are most likely to provide an environment in which industry will flourish.

208. Answers must depend on several sources of information; Ministry of Labour man-power statistics and Board of Trade censuses of production go a long way in describing what has been happening, but understanding why it has happened and therefore whether it is likely to continue to happen must depend very largely on industrial experience.

The Influence of Public Policy

209. A further complication is that industrial change is influenced by public policy. A higher rate of growth in one place than in another may only reflect the fact that more houses were being built in one than in the other, so that labour which would otherwise have moved to the latter has been discouraged; it may mean, too, that because the second place was already congested and short of labour, the Board of Trade was more apt to steer expansion of employment to other areas. At the present time both financial inducements and the Board of Trade industrial development certificate system are directed primarily to ensuring that any expansions of industry which would be viable in development areas are in fact steered there. The secondary objective is to restrain development in areas where there is an acute shortage of labour; a further objective is to match planned population overspill and New Towns with industries which for one reason or another it would be inappropriate to steer to development areas. Subject to these objectives, the expansion of existing industry is permitted. Projects new to the area are allowed for places outside development areas which have employment problems, provided that these projects are not suitable prospects for the development areas. There is obviously room for a good deal of flexibility in this, and increases in population would affect the balance of consideration as the effect was felt on the supply of labour.

Man-Power

210. The man-power statistics quoted are based on employees in employment (i.e. they do not include unemployed) and are for the years 1959–63. The years 1959 and 1963 represent broadly similar points on the trade cycle. These statistics are an estimate based on a sample and are therefore subject to sampling errors which can be substantial in the case of small groups.

211. In 1963 the distribution of East Midlands employees, as compared with Great Britain, was as shown in Table 5.

TABLE 5

Distribution of Employees, East Midlands and Great Britain, 1963

	East Midlands %	Great Britain %
Extractive Industries (agriculture, mining and quarrying)	11·5	5·5
Manufacturing Industries ..	43·5	38·0
Construction Industry ..	6·4	6·8
Service Industries	38·6	49·7

In broad terms then, the extractive industries show a significant divergence between the Region and Great Britain, attributable mainly to the size of the Region's coalfield. The Region's proportion of employees in mining and quarrying was nearly three times that for the country as a whole.

212. In the manufacturing sector the major industries were engineering, textiles and footwear. The metal-using industries accounted for the biggest proportion of the labour force (15·1%) and this was also true of Great Britain (16·5%). If the service industries are excluded both in the Region and the country, the biggest single group was engineering, electrical and metal goods. In the Region the next biggest industry was textiles (8·6% compared with the Great Britain figure of 3·4%); the concentration in East Midlands of hosiery and lace largely accounted for this. Hard on textiles came mining and quarrying, accounting for 8·4% of the labour force against a Great Britain figure of 3·0%. Clothing and footwear, which followed, also showed a marked divergence from the national pattern (6·0% as compared to 2·4%) but this was to be expected in a region which employed about half the country's total labour force in the footwear industry.

213. The East Midlands has a wide spread of industrial activity, conforming largely to the spread of industry throughout Great Britain. Appendices 27 and 28 show the distribution of man-power among the various groups of industries in 1963, and the changes which had taken place in the previous four years. In man-power terms some industries were expanding and some were contracting; it is important to get the picture clear.

Expanding Industries

214. If service industries are again excluded, the biggest growth between 1959 and 1963 in East Midlands was in the biggest group of industries—engineering, electrical and metal goods; here the Region's relative growth easily surpassed that of the country as a whole, rising by over 19,000. (Within this group the individual industries which showed the biggest growth were: (i) industrial engines, (ii) electrical machinery, and (iii) radio and other electronic apparatus, all of which grew by more than 20%, the growth in the last industry being particularly sharp at 38%.) The next biggest increase was in chemicals which grew over the period by 14% (2,600) whereas the position throughout the country showed a small decline. In those industries which showed an increase there were other marked divergencies between Region and country. Bricks, pottery, etc., showed an increase considerably greater than that for Great Britain; food, drink and tobacco produced a similar picture. Metal manufacture expanded considerably more in the Region, due in large measure to the growth of Corby New Town. The biggest contrast between the Region and the rest of the country was in textiles where the regional growth over the period was 7% whereas throughout Great Britain there was an equal contraction. The reasons for this are that during 1959–63 the hosiery and knitwear industry prospered while cotton and woollen textiles (of which there is relatively little in the Region) contracted.

Industries with Reducing Man-Power

215. In industries where man-power was contracting, apart from those which are comparatively minor in the Region's structure (e.g. leather goods, shipbuilding, timber) the industry which contracted most was agriculture (5,700 or 12%) though the decline in numbers, which was also experienced throughout the rest of the country, was more than offset by the increase in productivity. Next came mining and quarrying which lost over 13,000. For practical purposes the decline here can be ascribed almost entirely to the contraction of the coal industry. The East Midlands has had the good fortune to contain the most productive coalfield in the country so that the impact of pit closures has been less than in other coal mining regions; this was shown by the regional man-power reduction of 10% compared with 18% for Great Britain. It was in clothing and footwear that the biggest relative decline was experienced (4,300 or 5% compared with half per cent for the country). In the Region, unlike the country, footwear forms the bigger part of this group by far, and since the industry was shedding labour, mainly as a result of technological progress, the marked decline in the clothing and footwear group was inevitable.

The Balance

216. The general picture of expanding and contracting industries (excluding services) derived from Ministry of Labour statistics, is shown in Table 6. (See also Figure 14.)

217. Table 6 gives no more than a broad comparison and probably understates the position. It can be seen in Appendix 28 that there were many industrial groups in the East Midlands which expanded by more than 10% in the period 1959–63, but most of these are excluded from this table since the criterion is expansion throughout Great Britain as a whole; if a comparison is made of all industries (excluding services) which expanded by 10% or more in either East Midlands or Great Britain, the result is as shown in Table 7.

218. In Table 7 'expanding' industries are

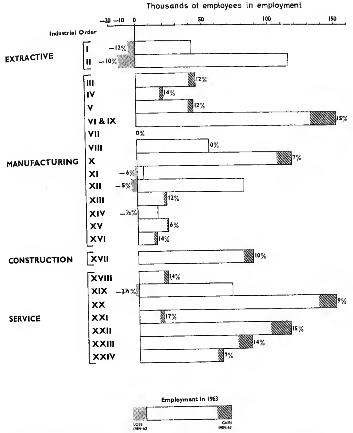


Fig. 14 Employment by Industrial Orders, 1963, and Changes 1959–63
The lengths of the columns represent the number of employees in employment in 1963 in each industrial order of the Standard Industrial Classification. Percentage changes over the period 1959–63 are given in figures. A full description of each industrial order is given in *Appendix 14.*

those whose man-power grew by 10% or more either in the East Midlands or Great Britain between 1959 and 1963; 'contracting' industries are those which declined by 10% or more during the same period. It must be added that Tables 6 and 7 refer to groups of industries, and that within each group individual industries might have developed differently. Also, other industries in which expansion or contraction was less than 10% nevertheless had a significant effect in total.

219. On balance then, compared with Great Britain, the East Midlands had a slightly smaller proportion of employees in expanding industries and a far bigger one in contracting industries, but the expanding industries, as a whole, were growing more quickly and the contracting industries declining more slowly than throughout the country as a whole. The net result for all industries (including services) over the period was a regional growth of 6% against 4½% for Britain as a whole.

TABLE 6

Industries Expanded or Contracted by 10% or more Nationally, 1959–63*

Standard Industrial Classification Orders	Percentage of all Employees			
	In 'Expanding' Industries		In 'Contracting' Industries	
	East Midlands	Great Britain	**East Midlands**	Great Britain
Engineering, electrical and metal goods	**11·1**	11·8	—	—
Other manufacturing industries	**1·0**	1·4	—	—
Construction	**8·4**	6·8	—	—
Shipbuilding	—	—	—	0·9
Agriculture, forestry and fishing	—	—	**3·1**	2·5
Mining and quarrying	—	—	**8·4**	3·0
	18·5	20·0	**11·5**	6·4

* 'Expanding' industries are those whose man-power grew by 10% or more in Great Britain between 1959 and 1963; 'contracting' industries are those which declined by 10% or more in Great Britain during the same period.

TABLE 7

Industries Expanded or Contracted by 10% or more Nationally or in the East Midlands Region, 1959–63

Standard Industrial Classification Orders	Percentage of all Employees			
	In 'Expanding' Industries		In 'Contracting' Industries	
	East Midlands	Great Britain	**East Midlands**	Great Britain
Engineering, electrical and other metal goods ..	**11·1**	11·8	—	—
Chemicals and allied industries	**1·5**	2·3	—	—
Other manufacturing industries	**1·0**	1·4	—	—
Bricks, pottery, glass, cement, etc.	**1·6**	1·5	—	—
Food, drink and tobacco	**3·3**	3·6	—	—
Metal manufacture	**3·2**	2·8	—	—
Shipbuilding and marine engineering	—	—	—	0·9
Construction	**6·4**	6·8	—	—
Agriculture, forestry and fishing	—	—	**3·1**	2·5
Mining and quarrying	—	—	**8·4**	3·0
	28·1	30·0	**11·5**	6·4

Industrial Output

220. The employment changes reviewed above and their implications for assessing the future of the Region's economy (and the manufacturing sector in particular) must be considered in the context of output and output per head information. It is important also to consider actual net output per head for individual manufacturing industries, and it is fortunate in this respect that the 1958 Census of Production material has been analysed on a regional basis (*Board of Trade Journal,* 28th January 1966). It must first be explained that the net output per head information derived from this census is based on a concept of net output, which is value added to material by the process of production. In detail the definition is: total value of a company's sales and receipts for work done in the year concerned; plus stock value at the end of the year minus that at the beginning; minus cost of materials, fuel, subcontracting and transport. Essentially, therefore, net value output represents in value terms the achievement of capital, labour and management in combination; it is also the source of payment for wages, rents, overheads, profits, depreciation and the financing of working capital. The division of net value output by the numbers of the labour force—net value output per head—gives some indication, therefore, of the achievement of each unit of labour and the use of capital per unit of labour. But it is not an index of business efficiency because, among other things, the nature of the product and the techniques available have marked influence on the results attainable.

221. The net output per head figure for all manufacturing industry in the North Midland Region in 1958 was 96% of the Great Britain figure; the West Midlands was similarly placed. This reflects the relatively high proportion of the Region's employment in textiles and clothing and footwear, both of which have comparatively low net output per head figures. Indeed, if allowance were made for the relative influence of the industrial structure, the North Midland index of net output per head would be 101 instead of 96. The position is summed up in Table 8.

222. From Table 8, it will be seen that over the broad range of industries the regional net output per head figures are higher than the national; only in chemicals, timber and furniture, and paper and printing are they lower—mainly because the Region has no incidence of the capital intensive mineral oil refining and paper and board industries, which tend to be port based or to be near adequate timber and water supplies. But these industries together account for only a little over 4% of the Region's present total employment. (Supplementary information is in Appendix 29, giving net output per head information for individual industries of importance to the Region.)

223. While it is true that at any one time employment figures are a reasonable guide to the distribution of physical output between industries, this is not the case when considering changes over a period, because of variation in productivity. There are no comprehensive regional statistics of output and output per head change rates, but information for the country as a whole, shown in Table 9, may be regarded as a safe enough guide as to what is happening in a region with such a diversity and amount of manufacturing industry as the East Midlands.

224. The industries shown in Table 9 account for over three-quarters of the Region's employment in the manufacturing sector. It will be seen that mechanical and electrical engineering, and hosiery and knitwear have had marked output and productivity increases and that footwear, too, has shared this experience, but with a lower rate of output increase.

225. Clearly the Region has a strong representation of high net output per head industries as well as textiles, clothing and footwear, where the figures are lower. Caution is needed in going beyond this. There is the difficulty of the definition of net value output, already discussed. There is also the fundamental point that some industries, for technological reasons, are more capable of absorbing capital investment than others; and while the market continues to require the products of the latter, the most efficient use by one of these industries (or by an individual firm within it) of capital and labour could still be associated with a relatively low net output per head figure. Earnings tend to be higher in high productivity industries, and in this context the position of textiles, footwear and clothing at the lower end of the net output per head figures should be noted. These industries have in general rather low earnings rates both for male and female manual workers. More important, these industries have a relatively high proportion of females in their labour force and it is the case that women's earnings throughout industry are markedly lower than male earnings. There is a connection with the rather low incomes noted elsewhere in this Study. The representation in the Region of industries with either high net output per head figures or with figures about the national average for all manufacturing is significant. The regional figures for nearly all the individual industry groups are higher than the national figure for the industry group in question.

Engineering

226. The engineering industries in this Region

TABLE 8

Net Output per Person Employed, 1958

Standard Industrial Classification Orders	Great Britain	North Midland Percentage of Great Britain
	£	
Food, drink and tobacco	1,288	101
Chemicals and allied industries	1,556	89
Metal manufacture	1,213	112
Engineering and electrical goods; shipbuilding and marine engineering; vehicles; and metal goods not elsewhere specified	995	100
Textiles	728	106
Leather, leather goods, and fur	792	118
Clothing and footwear	597	105
Bricks, pottery, glass, cement, etc.	978	104
Timber, furniture, etc.	851	90
Paper, printing and publishing	1,083	83
Other manufacturing industries	923	100
ALL MANUFACTURING INDUSTRIES	1,013	98

ALL MANUFACTURING INDUSTRIES	£
Net output per person employed: Great Britain	1,013
Net output per person employed: North Midland	971

TABLE 9

Selected Industries: Changes in National Output and Output per Head, 1960–64

	Annual Percentage Increases, 1960–64	
	Output	Output per Head
Mechanical and electrical engineering	4·7	2·9
Textiles	1·3	3·3
Hosiery and knitwear	4·8	3·9
Clothing and footwear	1·2	2·3
Footwear	2·5	3·0
Vehicles	1·8	2·8
Food, drink and tobacco	2·6	2·8
Metal manufacture	1·4	1·1

are of great variety and complexity. Products range from bearings to components for nuclear reactors, and from machinery and plant used by industry to radio and telephone equipment. This diversity makes it worthwhile to attempt an assessment of the growth and productivity performance of the main industries involved. Necessarily, national performance information has to be used, but when this is applied to the regional scene the result may be judged to have at least some measure of validity. Appropriate net output per head information is available in Appendix 29; this emphasises the diversity of the regional representation and also the inclusion of both high and low net output per head industries in terms of the overall figure for the engineering group. Indicators of annual percentage rates of increase in 1960–64 of output and productivity are shown in Table 10. The figures for the machine tool industry as a whole are significant, but there is no way of drawing any special conclusions for the regional component of this industry. For

TABLE 10

Selected Engineering Industries: Changes in National Output and Output per Head, 1960–64

	Output	Output per Head
Machine tools	2·0	−1·0
Other mechanical engineering	4·1	3·1
Telegraph, telephone, radio and other electronic apparatus ..	7·5	1·9
Other electrical engineering	4·5	3·3

general mechanical and electrical engineering there is a good representation in the Region and the high outputs and productivity increases should be noted. The telegraph and radio group, also well represented, have had a high rate of increase in output accompanied by a somewhat modest productivity improvement. In the sense then that the Region has such a comprehensive representation of the engineering group of industries, it would seem that it has clearly benefited more or less at the same rate as the prosperity of this group of industries nationally. There is also the confirmation of the employment figures (which show a rate of increase above that for the country as a whole). The rate of increase of output of this group of industries in the recent past has been such that they have attracted significant amounts of extra labour, despite relatively large increases in rates of productivity. This will be of special significance in considering the likely performance of the Region's manufacturing industry in the longer term.

Hosiery and Footwear

227. The figures quoted in Table 9 indicate that the hosiery industry is narrowing the differentials between itself and other industries. Industrial opinion is that there remains considerable scope for further increases in productivity; the difficulty is that 70% of the labour force is employed on making-up processes, which basically remain hand-operations supplemented by machine rather than fully machine operations. A real break-through here has still to come, but opportunities to save labour by eliminating unnecessary processes and by better training are still regarded as considerable. The footwear industry has recently been through a period of modernisation, and further advances in the immediate future may be more limited—hence the fall in the figures given in Table 9; but in the slightly longer term the increase in the use of synthetic materials and in the use of welding instead of stitching for the closing process should push up again the rate of increase in output per head. Both these changes are already very much in evidence, but it will take time to perfect them and to exploit their advantages throughout the industry.

228. The hosiery and footwear industries are worthy of examination from another standpoint. They each have to produce a great range of products, with differences in size, style and cost, and they both have to be very responsive to changes in fashion. This inevitably limits the scope for 'long runs' and reduces the profitability of mechanisation and automation. It seems probable that the very nature of the product will require that the ratio of labour costs to capital costs will remain higher in these industries than in many others, and this in turn means that net output per head will remain lower. This of course has nothing to do with the effort of the employers or the efficiency of management. It simply follows from the fact that, in general, machinery permits increases of output per head by a margin greater than the capital charges involved.

Coal Mining

229. The figures and the prospects discussed have related only to certain industries in the manufacturing sector, but clearly the Region's position cannot be properly assessed without a further examination of the prospects for the mining industry. As mentioned earlier, the East Midlands Division of the Coal Board employs some 78,000 men in the pits, and its biggest customers are the power stations of the Central Electricity Generating Board. Rapid increases in output per shift have resulted in, and are likely to continue to produce, a steady reduction in the demand for men-power by this industry in the Region over a long period, but the present shortage of men-power presents an acute problem. The demand for coal is influenced both by the rise in the total demand for energy and by the development of alternative sources of energy, and it would be hazardous to forecast the balance over a long period. The share of the East Midlands in meeting the national demand for coal is likely, on the basis of decisions already taken, to increase appreciably and there are ample reserves for a long period to come; this must give a firm base for the industry for the next thirty years. Nonetheless the long-term fall in the industry's need for men-power will effect one of the Region's major sources of employment, and the need to be prepared for this among the communities effected is clear.

Industrial Movement

230. It may be asked how far the pattern of industry may be changed in the future by the movement of firms from one place to another. In answering this question the first need is to establish what past trends have been, and this is attempted below.

231. The concept of the 'movement of industry' is far from being clear cut. The phrase is used here in the sense of a company in one area setting up a branch in another area or transferring part or all of an existing unit (or units) to another area. It does not include short distance moves such as those within a town, but it does include moves between towns in the same sub-region. Cases where a company takes over another in a different area but makes little or no change in the production of the company taken over have been excluded. Only moves of manufacturing industry have been included.

232. One limitation of the figures is that there is no systematic way of ensuring that all moves are included in the Board of Trade records. Where industrial development certificates have been required for new building (and since 1960 for change of use of non-industrial to industrial buildings) the Board has the information required. When, however, existing industrial premises are occupied by a firm moving from one area to another, the Board of Trade has to rely on a variety of sources and some of these moves, especially the smaller ones, may not come to its notice. In some cases, information about moves to existing premises is incomplete. In these cases the missing data have been estimated. The figures of employment provided by the moves reflect the number of jobs that the moves in question should provide when fully operational. Where moves have had time to become fully established, the actual employment figure is used; but in cases of recent moves, which might not have had time to build up to their eventual employment, the firms' estimates of the eventual labour force are taken into account.

Movement out of the Region

233. In the period from 1945 to 1965, there were 137 moves of industry out of the East Midlands Economic Planning Region known to the Board of Trade. These had a total area of over 10·4 million sq. ft. of industrial floor space and were expected to provide about 42,200 jobs. Of the total, 69 were moves into new premises, providing 24,700 jobs, and 68 were into existing premises, providing 17,500 jobs. On average, moves to new premises, in terms of both employment and area of factory space, were larger than those to existing premises.

234. Thirty-one moves, providing 21,100 jobs (half the total) have come from the metal-using industries. The clothing and textile industries have contributed twice as many moves—62—but these have resulted in only 14,300 jobs. Twelve moves, providing 1,300 jobs, have come from the footwear industry and 32 moves, providing 5,400 jobs, have come from other industries.

235. Among the receiving regions, Scotland has received most movement from the East Midlands in terms of jobs provided (11,800 jobs from 20 moves) followed by the Northern Region (9,000 from 17), the North West Region (3,300 from 14), Wales (5,700 from 14), East and West Ridings Region (4,500 from 19), Lindsey (3,200 from 19) and Northern Ireland (2,900 from 13).

236. There has been a total of 62 moves, providing 29,600 jobs (respectively 45% and 70% of the totals) to the development districts and old development areas; the major reception areas have been in Scotland, the Northern Region, Wales and Northern Ireland. Movement to locations other than development districts and development areas has been principally to the North West and East and West Ridings Regions and Lindsey, all of which border the East Midlands to the North. In particular, East and West Ridings Region and Lindsey have been attractive to textile and clothing firms seeking untapped reservoirs of female labour at a location not too distant from the parent plant.

237. During the periods 1946–51 and 1959–65 the number of moves decided upon annually was more than twice that during the period 1952–58. The two periods of most relevance for future trends are 1952–58 and 1959–65. In the period 1952–58, 26 moves were decided upon, providing 7,800 jobs. In the period 1959–65, 56 moves were decided upon, employing 7,900 people. It should be noted that any comparison of employment tends to be weighted in favour of the earlier period because the earlier moves have had longer to take root.

Movement within the Region

238. In all, 49 moves, with a total expected employment of 8,800, have taken place within the Region during the period 1945–65. This represents about one-fifth of the amount of total movement from the Region, in terms of employment. Of the movement within the Region, 30 moves with an expected employment of 6,900 were between sub-regions, compared with 17, with an expected employment of 1,900, within individual sub-regions. A high proportion of the movement has been to the Nottinghamshire–Derbyshire coalfield

area. On average, moves within the Region have been smaller in terms of employment than those from it. This is not surprising since the general experience is that firms prefer short distance moves for the smaller branches, and that it is an advantage to keep simple subsidiary branches within about 35 miles. Generally, more distant moves need to be large enough to be managerially self-contained.

239. Much of the movement within the Region has been in the footwear and hosiery industries. To combat labour shortage after the second world war, many firms set up branch units outside the traditional centres of the industry, both within the Region and outside it. The movement to other locations within the Region was largely a phenomenon of the immediate post-war period—it has since slackened off and in the absence of positive steps to increase movement it is unlikely to be of comparable importance in the future.

Movement into the Region

240. There were 110 moves into the East Midlands during the period 1945–65. These employed or were expected to employ nearly 28,000 people—two-thirds of the number employed by moves out of the Region. In view of the fact that this movement might be thought to have taken place despite the government's policy of steering industry to the development areas, it is important to point out that this movement was mainly of two kinds. First, 52 of the moves, employing 10,000, took place to areas where the Board of Trade accepted a need to encourage the influx of industry to accompany planned build-ups of population. Secondly, 39 moves, employing 15,500 took place into existing industrial premises over which the industrial development certificate control does not operate. 'Unplanned' movement into new premises in the Region with industrial development certificate approval amounted to only 19 moves, employing over 2,000 people.

Movements followed by Closure

241. The foregoing figures exclude moves where closure followed. An appreciable proportion of moves have this sequel but it is in general the larger concerns which survive. Closures amounted to about 11% of the employment involved in all moves from, into and within the Region.

242. The closure rate, in terms of floor area and employment, has been higher among establishments moving to or from the Region than among those moving inside the Region, and the rate of closures among firms moving from the Region is only slightly higher than that among firms moving into the Region. Only 14 out of 66 cases where movement from the Region was followed by closure were into new premises.

Total Movement

243. The movement of industry affecting the East Midlands needs to be seen in its proper perspective. It is important to remember that moves during the period 1945–65 represented only 6·8% of employment in manufacturing in 1965. The movement that has taken place out of the Region since the second world war—137 moves to employ 42,200 people—is small both by comparison with the total amount of industry in the East Midlands and compared with the post-war expansion of industry within the Region.

244. Moves within the Region gave a total employment of only 8,800. Movement into the Region—110 cases to employ 28,000—has been important in building up specific areas, but again has been small in relation to the total stock of industry in the Region. The significant fact is that the amount of mobile industry is strictly limited.

245. The movement of industry within and into the East Midlands during the twenty years since 1945, although limited, has made a considerable contribution to decreasing some of the Region's problems and increasing its prosperity. In general the post-war period has seen industry spread much more evenly over the Region.

246. In addition East Midlands industry, by moving to the development districts and other areas of high unemployment, has made a substantial contribution to the national policy of encouraging growth in the less prosperous regions and restraining demands for labour in the congested areas. This movement has increased since 1959 as a result of the stricter application of the distribution of industry policy.

The General Position

247. The general picture then is of a Region with an unsatisfied demand for labour, with a wide variety of industries, and an increasing output per head. This is marked even in those industries where, because of their nature, the output per head is, in financial terms, lower than average. The Region has moreover been able to afford to transfer some of its industry to areas less favourably placed, and has done so with little effect so far upon the variety and buoyancy of its economic structure. For the future it is important that the Region's manufacturing sector has a strong representation of high productivity growth industries and a significant concentration of these in the engineering group.

7 Housing, Education and Health

The Environment

248. Industry depends on many services, some provided by public authority and some by private industry. People must eat, drink and be housed; both they and the raw materials and products of industry require power and transport. Modern industry requires an educated labour force and a lively culture, and there are many things that money will not buy. Industry will certainly flourish best in an environment where these other satisfactions are possible.

249. This and the next two chapters deal with the Region as an environment for living and working. In every field from cultural and recreative facilities to housing and roads there will be something to preserve and much to replace. The number of desirable changes which would make the Region a better place to live in are infinite. Obviously it would not be possible to do everything within measurable time, and one of the purposes of this review is to help to get the priorities right in deciding what to do within the limits of practicability.

Housing

250. The provision of adequate housing must feature prominently in any consideration of the economic and social life of the Region. The National Housing Programme envisages an increase in volume from the 383,000 houses built in 1964 to half a million a year by 1970 and indicates the policy to be pursued. It is as well now to look at the regional picture and to assess its problems both in the national perspective and from more local viewpoints.

251. The total housing requirements arise from the need to replace sub-standard housing, from existing shortages of dwellings and from the expected increase in the number of households as a result of natural population increase and migration.

252. Sub-standard housing is a continuing problem involving the clearance of buildings already recognised as unfit and the replacement of dwellings likely during the planning period to become sub-standard because of age, obsolete design or unsatisfactory environment.

253. Local authorities' estimates of unfit dwellings in the Region in March 1965 totalled 53,000 or 5·1% of the total number of permanent dwellings. This compared with 5·5% for England and Wales, but to see the problem in the wider view it is worth noting that the North Western Region had 12·8% or 279,000 of its total dwellings classed as unfit, while the West Midlands and Yorkshire and Humberside respectively had 6·5% (100,000) and 8·7% (138,000). Within the East Midlands, nearly two-thirds of these unfit dwellings were in the four largest county boroughs, Nottingham having the greatest number (12,500), but Northampton the greatest proportion—17%. The sub-regions and their districts showed a wide variation in this respect, but Corby stood out with only 0·2% of its dwellings unfit, emphasising the recent origin of most of its buildings.

254. These estimates are not based on uniform standards and they do not take into account the number of dwellings which will become unacceptable as standards rise. However, rateable values, age and lack of certain household facilities form useful guides towards an approximate assessment.

255. Rateable values provide a rough indication of the general quality of housing, and a high proportion of the dwellings in the under £30 range, excluding farm workers' dwellings, can be regarded as sub-standard accommodation, usually being potential if not actual slums. (See Figure 15.) In 1965 there were in the Region 203,000 such dwellings, of which no fewer than 127,200 were in the Nottinghamshire–Derbyshire sub-region and repre-

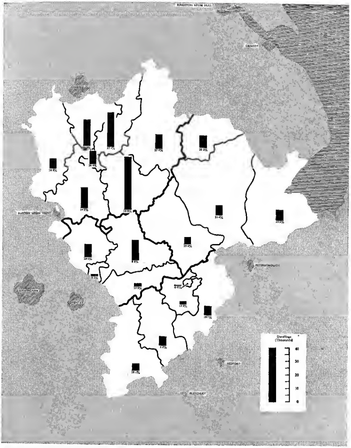


Fig. 15 Dwellings with Rateable Value £30 or Less, 1965
The heights of the columns are proportional to the numbers of dwellings with rateable value £30 or less in 1965. The percentage which these represent of all separately rated dwellings is given in figures. For England and Wales the proportion is 18·5%. See *Appendix 33.*

sented 22·9% of the total stock in the sub-region against the regional average of 20·1%. Again there is considerable variation among the districts in the sub-regions, with the Erewash Valley, High Derbyshire and Mansfield showing the highest percentages at 38·8, 38·9 and 32·1, and Leicestershire, Leicester District and Corby at the other end of the scale with 12·6, 8·9 and 0·9 respectively.

256. In general most dwellings now over eighty years old—which will be over a hundred years old in the 1980s—will require replacement by that time because the fabric is worn out or they are crowded, badly laid out or blighted by neighbouring industry. In mid-1965 there were 270,000 such houses (24% of all dwellings) in the Region, little different from the national average.

257. Yet another indication is the availability or otherwise of certain household facilities—

cold water tap, fixed bath, water closet. According to the 1961 census, at that time 15,300 (1·5%) of the Region's dwellings had no cold water tap, 233,100 (23·5%) had no fixed bath, and 81,700 (8·2%) had no water closet. Not surprisingly the rural districts had the highest proportion of dwellings without taps, but in all districts except Corby and Hinckley over one-fifth of the dwellings had no fixed bath, the highest proportion being 34·2% in the Leicester–South Derbyshire coalfields. The greatest number of dwellings with no fixed bath was in the Nottinghamshire–Derbyshire sub-region—124,500, of which 71,800 were in the Nottingham and Derby districts. The rural districts again showed the highest proportion of dwellings without water closets, well above the regional average of 8·2%. Where the buildings are structurally sound but lacking modern amenities the defects can often be remedied with the help of improvement grants. In the main, however, (and particularly in the industrial towns) the houses without baths tend to be small, old and in areas of unsatisfactory environment.

258. While none of these guides is in itself conclusive in indicating replacement needs, together they indicate the range of the problem. Table 11 indicates that a reasonable estimate of the number of dwellings which will need to be replaced in the next twenty years is some 200,000.

TABLE 11

Condition of Dwellings

	Number	Percentage of total stock
Unfit dwellings (March 1965)	53,000	5·1
Rateable value under £30 ..	203,000	20·1
Over eighty years old in 1965	270,000	24·4
Without fixed bath	233,000	23·5

Further details are given in Appendix 33.

259. The rate of slum clearance by local authorities in the East Midlands in the last eleven years has only been about one-third of that necessary to clear the 200,000 dwellings. Between 1955 and 1965, 45,500 dwellings were demolished and at the end of the period there were still 53,000 unfit dwellings. However, the rate of clearance is already being stepped up particularly by present policy in Nottingham and Leicester. Table 12 shows the past clearance rates and future replacement need by sub-regions.

260. It is estimated that in the Region there are now 1,106,000 households. Some families have no home of their own and share accommodation; others, while not sharing, need more room. After making allowance for vacant dwellings (census returns show something like 2% are empty at any one time) available existing dwellings total 1,078,000. This leaves a shortage of 28,000 of which 17,000 are in the Nottinghamshire–Derbyshire sub-region, 3,000 in Leicester, 2,000 in the Eastern Lowlands and 6,000 in Northamptonshire.

261. The forecast increase in population by 1981, taking into consideration natural increase of the existing population, private migration on the recent pattern and scale, and planned migration excluding planned migration into the Mosbrough area, is expected to result in a further 213,000 households in the Region, distributed amongst the sub-regions as follows:

	No. of Households
Nottinghamshire–Derbyshire	98,000
Leicester	34,000
Eastern Lowlands	19,000
Northamptonshire	62,000

The figure for Northamptonshire includes 50,000 households (which may be increased) arising from the planned growth of Corby, Daventry, Northampton and Wellingborough.

The Region's Total Housing Need

262. The Region's total housing need up to 1981 is summarised in Table 13.

263. The total needs require on average the building of at least 27,500 houses per year. Completion rates have recently been running at over 22,000 per year (see Table 14) and, if these are accelerated in the same proportion as is envisaged nationally, the required regional increase should be attained. However, the current shortage and the backlog of clearance of unfit houses, as well as the expansion programmes in Northamptonshire, point the need for the initial increase in house-building to be as rapid as possible.

A large part of the regional increase is required for the Nottinghamshire–Derbyshire sub-region where, largely due to the replacement need of some 7,900 dwellings a year, the recent rate of nearly 10,200 a year needs to be stepped up by about 36%. Particularly where there are large and continuing local authority and New Town programmes, growth of output may be helped by increased scale of industrialised building. Past achievements by sub-regions and their future needs are set out in Table 14 and Appendices 34 and 35.

TABLE 12

Clearance Rates, January 1955 to December 1965

	Houses Demolished or Closed				Total Replacement Need 1985–81	Average Yearly Replacement Need 1965–81
	1955–66		1964	1965		
	Total	Annual				
East Midlands	**45,479**	**4,135**	**3,725**	**3,739**	**200,000**	**12,500**
Sub-Region Nottinghamshire–Derbyshire	21,373	1,943	2,052	2,122	126,000	7,900
Leicester	12,043	1,095	823	858	26,000	1,600
Eastern Lowlands	5,524	502	509	383	28,000	1,700
Northamptonshire	6,539	596	341	376	20,000	1,300

TABLE 13

Total Housing Need, 1965–81

	No. of Houses For			
	Replacement	Existing Shortage	Population Increase	Total Need
East Midlands	**200,000**	**28,000**	**213,000**	**441,000**
Sub-Region Nottinghamshire–Derbyshire	126,000	17,000	98,000	241,000
Leicester	26,000	3,000	34,000	63,000
Eastern Lowlands	26,000	2,000	19,000	49,000
Northamptonshire	20,000	6,000	62,000	88,000

TABLE 14

Dwellings: Yearly Completions, 1956–65, and Yearly Need, 1965–81

	Completions			Average Yearly Need 1966–81
	Yearly Average 1956–65	1964	1965	
East Midlands	**20,100**	**22,900**	**22,300**	**27,500**
Sub-Region Nottinghamshire–Derbyshire	10,200	11,500	11,100	15,000
Leicester	4,700	4,900	6,000	4,000
Eastern Lowlands	2,300	2,900	2,800	3,000
Northamptonshire	2,800	3,600	3,400	5,500

264. Since 1960, houses in the Region have been built by local authorities and private enterprise in the ratio 1 : 3 respectively, and while the 1965 White Paper *Housing Programme, 1965–1970* (Cmnd. 2838) envisages that nationally the proportion built by public authorities should rise to a half, clearly priorities in this direction will go where the need is greatest. As the problem facing the East Midlands is relatively small both in absolute numbers and proportion compared with other regions, it may well be that the emphasis on houses built for sale will increase. This view is supported by indications that the level of prosperity in the Region, the rather lower cost of houses than in most other parts of the country and people's desire to own their homes have resulted in some areas in the position that the existing stock of local authority rented houses is already large enough virtually to meet the demand for such housing.

265. On the broad assumption that natural increase of population in the Region will continue at the same rate as the country as a whole, about 250,000 more dwellings would be needed for increased population in the last two decades of the century. During this period another 200,000 dwellings are likely to require replacement. If private migration continues at the same rate as indicated by the assumptions used for the period up to 1981, and if the planned expansion of Corby, Daventry, Northampton and Wellingborough continues as expected, a grand total of over ½ million will be required—a yearly average of 26,000 throughout the twenty-year period.

266. It seems likely that the acceleration necessary in current house-building rates to meet the estimated needs to the end of the century can be achieved. A considerable proportion of the houses are required for replacement, and for these either cleared sites will be redeveloped or alternative sites developed in the same town. The need for replacement, however, is not uniform throughout the Region or the sub-regions. Proportionately more houses are needed in areas which have a large element of houses erected during the Industrial Revolution.

267. One factor which will continue to affect this Region, and particularly some of the areas most in need of renewal, is subsidence due to coalmining. This is not generally a serious problem so far as housing is concerned, but it may involve some delay before land is used, or some extra cost in strengthening foundations of new buildings and in the maintenance of mains services.

268. Land for housing is unlikely to be a serious problem in the Region generally. Over much of the Region a shortage of land inside the boundary of a particular local authority is often matched by availability within reasonable reach outside the boundary, provided that its development can be justified in the context of land use planning.

269. With every prospect of adequate land and of building production rising to the necessary level, there seems no reason why the Region should not meet its housing needs up to the end of the century.

Education

270. Modern industry is demanding a higher and higher standard of education from more and more people, and the importance of satisfying this demand can hardly be overestimated. Yet in a regional study there is comparatively little to say about the basic education for any particular region. The East Midlands shares with the rest of the country the shortage of teachers and the long continued financial stringency which has restricted new buildings and the rehabilitation of old buildings. Although the provision of new school places has been considerably in excess of the increase in the school population, it is generally true in the Region, as in the country, that most of the available resources have been spent in providing roofs over children's heads rather than in modernising existing schools. Over 3·7 million new school places have been provided in maintained schools in the country as a whole since 1945, compared with a rise of 2·1 million in the number of pupils in attendance. The balance of 1·6 million places clearly represents some amelioration. Despite this, over the whole field of education there is a shortage of the facilities which are clearly desirable, but this is common to the country.

271. When the older age-groups and the forms of higher education are considered, the Region shows some special features. The proportion of pupils remaining at school after the statutory school-leaving age is rather smaller than the national average. Moreover, while this proportion is increasing, the rate of increase itself is less than that of the country as a whole. This is illustrated by considering the proportion of those pupils in maintained schools who were aged 13 in 1961, and who were still at school in 1964. The figure for the North Midland Educational Division was 17·8%, and compares very unfavourably with, for instance, 28·6% for the South Eastern Division. It was in fact the lowest percentage of any region except that of the Northern Region at 15·3%. Unfortunately, too, the tendency for pupils in the Region not to remain at school is not limited merely to those aged 15 to 16

TABLE 15

Percentage of School Leavers with GCE Achievements, 1963–64

	North Midland Educational Division*			England and Wales		
	Boys	Girls	Total	Boys	Girls	Total
Percentage of All Leavers with:						
2 or more 'A' Level Passes	9·2	5·4	7·4	10·0	6·4	8·2
1 or more 'A' Level Passes	11·2	7·4	9·4	12·1	8·5	10·4
At least 5 'O' Level Passes and/or at least 1 'A' Level Pass	17·9	15·7	16·8	19·2	17·8	18·5

[a] Figures for the North Midland Educational Division are used; this covers the East Midlands Region plus Lincolnshire (Lindsey). It should also be noted that the figures above are based on a 10% sample of school leavers, and the existence of a sampling error should be recognised when comparing regional and national percentages.

years, but continues for still older age-groups. In each of these the proportion of children at school is smaller in this Region than in the country as a whole. Naturally the earlier school-leaving habit is accompanied by a smaller proportion of entries in the General Certificate of Education examination in the East Midlands than in England and Wales. In the academic year 1963–64 the relative percentages of all leavers with specified GCE achievements were as shown in Table 15.

272. Table 15 shows that the relatively poor achievements of the Region are more marked in the case of girls than of boys; girls are tending to leave much earlier than boys, even in comparison with similar groups in other regions. This may be due in part to the Region's industrial make-up, and the considerable immediate opportunities for girl school-leavers to earn relatively high wages. So far as boys are concerned the tendency to leave school early is not markedly worse in this Region than in many others. Children living in the southern half of England do stay on at school to a substantially greater extent than those in the north, whilst parents who have stayed on themselves often encourage their children to do likewise. Both factors will tend to keep the East Midlands proportion below those for England and Wales.

273. The position is slightly improved when full-time further education and part-time courses are considered. In 1963–64, 15% of the school-leavers in this Region went on to full-time further education, and although this also was a little below the national figure, the figure for boys was slightly higher than the national figure. Moreover, the proportion of 15 to 17 year old students attending part-time courses was above the average for England and Wales. Nonetheless, the situation can hardly be looked at with equanimity, and the position of the girls must cause some concern. There is clearly some danger that the great number of opportunities open to under-qualified girls may reduce the incentives to reach higher standards and that this in turn will cause difficulty to types of employment which need the higher qualifications.

274. One further consequence of this position should be mentioned; when the school-leaving age is extended by one year in 1970, the impact on this Region will be much greater than in regions where the proportion staying on at school voluntarily is higher.

275. The number of school-children in the Region is over 7% of the total number in England and Wales. In January 1965, the numbers of children at direct grant and independent schools in the Region and the proportions they represented of the equivalent numbers for England and Wales were as shown in Table 16.

TABLE 16

Children at Direct Grant and Independent Schools, 1965

	pupils	%
Direct Grant Schools .	5,419	4·8
Independent Schools recognised as efficient ..	13,013	4·2
Other Independent Schools	7,491	4·9

276. Through the many colleges of further education (technical colleges, colleges of technology, colleges of art, and like institutions) listed in Appendix 36 the needs of the Region as a whole are fairly well met in the industrial areas and main centres of population, but in the eastern agricultural districts relatively poor public transport services are something of a handicap to the full use of the facilities available. Nevertheless, there has been vigorous growth of interest in technical and agricultural education in these more remote areas. The existing provisions reflect the wide range of industrial pursuits and where the preponderance of traditional industries is declining, courses to meet the requirements of the new industries are being provided. Industrial co-operation is generally good. Expansion of accommodation is in hand where the demand is high, notably in the Derby, Nottingham and Leicester areas. Advice on the various aspects of further education is provided by the Regional Advisory Council for Further Education whose aid will be enlisted in connection with training to make the best use in industry of the limited manpower which will be available. One aspect of this concerns liaison between education and industry and this is also being fostered. At schools, notably in Leicestershire and Nottingham, arrangements are made for selected teachers to spend some time with industrial firms or attend courses of discussion with trade union officials and industrial executives. In turn, representatives from industry and trade unions visit schools. These arrangements are intended to help teachers to acquire closer understanding of industry and to give management and unions a better understanding of the different types of education and facilities provided in the schools.

277. Adult education is closely bound up with further education and there is no clear distinction between them, but mention should be made of the facilities for education undertaken for pleasure rather than from vocational motives by those over 18. In November 1964, over 64,000 men and women were taking courses in the evening institutes organised by local education authorities in the East Midlands Region, and in addition there was a large number of students following recreational courses at further education establishments. Provision is also made by the extra-mural departments of universities and by voluntary bodies such as the Workers' Educational Association.

278. The Universities of Nottingham and Leicester and the Loughborough University of Technology all offer degree courses including those with emphasis on technology. Degree and equivalent courses are also offered at the Nottingham and Leicester Regional Colleges of Technology, the Derby and District College of Technology, the Leicester College of Art and the Nottingham College of Art and Design. Teacher training takes place at nine colleges of education which, in September 1965, had 4,982 students, of whom 3,046 were women (see Appendix 37). However, in common with the rest of the country, the teacher training establishments will come under considerable strain because of the growth of the school population, the raising of the school-leaving age to 16 in 1970 and the wastage of trained people from the profession.

279. There is always a tendency to criticise the provision of public money to stimulate interests which are very clearly those of small minorities, and it is true that some of the classes in the technical colleges which are related more to recreational interest than to those of a career may be very poorly attended. The establishment of cultural institutions where these interests could be further pursued might in itself be the best stimulus that the educational system could receive. The establishment of such places as the new Nottingham Playhouse has considerable significance for the life and culture of the next generation.

Health and Welfare

280. Services to health are an important part of our human environment but before discussing them it may be useful to note that the East Midlands is a healthy area. A study of mortality rates for the period 1960–62 (used because it includes the latest general census) shows that both male and female death rates in the North Midland Standard Region were very close to the national average. The Ministry of Pensions and National Insurance *Report on an Enquiry into the Incidence of Incapacity for Work in the year ended 2nd June, 1962* also indicates that the Region is comparatively healthy. For men the inception rates for incapacity from all causes (i.e., in this context, the proportion of men in the sample studied who, during the period under review, commenced at least one spell of incapacity, excluding any incapacity arising from an industrial accident or prescribed industrial disease) and the number of days of incapacity during the period were less in all age-groups than the average for Great Britain. For women the position was virtually the same. Looking at the Region in a little more detail, Derby and Nottingham had inception rates from all causes at a little above the national and the regional average, but while in Nottingham the days of incapacity were also above the regional average, in Derby they were below. On the other hand, both

Leicester and Northampton were below the regional average both in respect of the inception rates and the number of days of incapacity in the period. The Report also shows that nationally, of all the occupations which were listed, miners and quarrymen had the greatest inception rates and the greatest number of days of incapacity from all causes and from two selected causes—bronchitis, and arthritis and rheumatism—during the period reviewed. In view of the importance of the extractive industries and the considerable number of men employed in them in the Region, the fact that the regional figures of inception rates and days of incapacity for all causes and for the two selected causes in relation to miners and quarrymen are below the national average for these occupations is, perhaps, indicative of the relatively good working conditions in most of the Region's mines. It is perhaps also a sign that the very full employment which exists in the Region makes it comparatively easy for a man who finds that his health is not up to the arduous work in the extractive industries to obtain another job.

Hospital Services

281. The boundaries of the hospital regions were determined by considerations peculiar to the hospital service and bear little relationship to those of the Economic Planning Regions: the East Midlands Economic Planning Region covers most of the Sheffield hospital region and parts of the Oxford and East Anglian regions. In common with the rest of the country, the Planning Region's hospital services have suffered in the past through insufficient capital investment. The rate of expenditure on hospital building has however increased greatly in recent years and will increase further under the revised programme outlined in *The Hospital Building Programme* (Cmnd. 3000) published in May 1966. Major schemes already in progress include a maternity unit at the County Hospital, Lincoln, at a cost of £1·1 million. Others which it is hoped to start within the period up to 1969–70 include the first phase of a new hospital at Boston, at a cost of £2·2 million for this phase, the second phase of development of Kettering General Hospital, this phase costing £2·6 million, maternity units at Leicester, Mansfield and Nottingham, costing £1·3, £1·2 and £1·3 million respectively, and the first phase of a new teaching hospital and medical school at Nottingham. Many other big schemes are projected to start after 1969–70. Nevertheless, despite the increased rate of capital expenditure now envisaged, the resources likely to be available to the hospital boards serving the Region will, like those available throughout the country, be insufficient to achieve all the boards would wish.

Local Authority Health and Welfare Services

282. Health and welfare services are planned by the local authorities—in consultation with hospital authorities and with Executive Councils—on the basis of their own assessment of the local needs for particular services and with due account of the general levels of services over the country as a whole. Thus capital investment on local authority health and welfare services is determined largely by the local assessment of the needs of the population in each area, and is a consequence of, rather than a part of, regional development plans. As with the hospitals, the amount of capital expenditure authorised has fallen short in the past of that required to reach the levels envisaged in local authorities' plans. Nevertheless, the annual amount of capital investment has been increasing yearly (with the exception of 1966–67 which is affected by the deferment of certain capital projects announced by the Government in July 1965) and it is hoped that this pattern of increasing investment will continue.

Executive Council Services

283. One of the easiest indicators of the effectiveness of the National Health Service is the average number of patients on the lists of the general medical practitioners; the figures are related to the number of principals and their significance would be varied if assistants were taken into account. On this basis the overall average size of list for England and Wales on the 1st October 1965 was 2,412; that for the East Midlands was 2,587. Similarly the number of people per dentist in England and Wales was 4,590, while the equivalent figure for the East Midlands was 6,380. Despite the financial incentive to enter practice in areas designated as short of doctors and the extent of these areas, which take in nearly half the doctors in the Region, the Region is still, by national standards, short of doctors and dentists.

8 Transport, Power and Water

Physical Services

284. Modern community life requires the provision of specialised physical services, which may be summarised as transport, power and water. These cannot be entirely isolated from each other, since, for instance, coal needs transport and steam is a very important source of power but, although water is the only one of them essential to life, they are all equally essential to the sort of life we lead. Their provision to the East Midlands is the subject of this chapter.

Communications

285. Because of its position in the Midlands, the Region is traversed by major roads (see Figure 16) and rail routes linking other parts of the country. Much of the M1 lies within the Region, together with part of its link with M6 in the west. Some of the heaviest railway freight in the country is carried on lines crossing the Derby–Leicester–Nottingham area, particularly those running northwards to Yorkshire. However, the most important concentration of traffic in the Region is in the south-west. In Northamptonshire, the M1 and A5 roads run parallel and close to each other, end to the electrified London – Manchester railway (Britain's most modern).

286. In addition to road and rail communications, the Region has the East Midlands Airport at Castle Donington, the Trent waterway linking Nottingham to the Humber, and the thriving though small port of Boston.

Roads

287. Investment in roads has not kept pace with the exceptionally rapid increase in the numbers of vehicles on them. (See Figure 17.) As far as the East Midlands is concerned the current situation shows striking variations. North–south routes are now fair but will be very good indeed in a few years' time when M1 and the current programme of improvements on A1 have been completed; but by contrast, the quality of east–west routes is generally poor, and there is an especially urgent need for the improvement of routes from the Nottingham, Leicester and Derby areas to the West Midlands and Lancashire.

288. **Traffic Movements to Places Outside the Region.** There are two main routes to London and the south. The Great North Road (A1) runs for sixty-five miles through the eastern half of the region. Dual carriageways have already been or are currently being provided on fifty-four miles and the dualling of the remaining eleven miles is included in the current programme. Work should be completed by the early 1970s.

289. Even more important is the M1 now open as far as the Nottingham and Derby area, after skirting Northampton and Leicester, and due, by late 1968, to be completed to the outskirts of Leeds and with a spur motorway (M18) connecting it to the Doncaster bypass (A1). This road has reduced the importance for long distance traffic of A6 and A5 although these will remain as important alternative routes.

290. These roads will probably provide adequate access to the south for the foreseeable future.

291. The combination of M1 and A1 will provide very good routes to the north. Route A61 will, however, require comprehensive improvement despite the relief which M1 when completed is expected to afford. M18 will join M1 near Sheffield to A1, bypassing Doncaster, and the A614 will continue to provide an important link between Nottingham and the A1 near Worksop.

292. Although these roads will probably be adequate, one possible source of future difficulty might be the large scale development

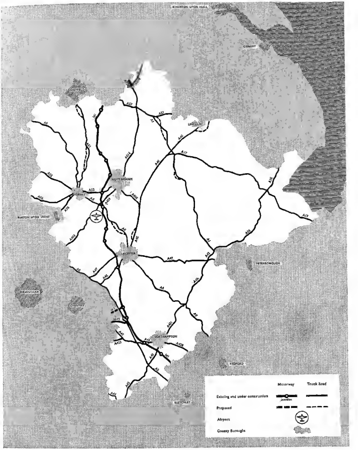


Fig. 16 Trunk Roads and Motorways

expected on South Humberside. Present plans are to channel the resulting north–south traffic into M18 and A1 near Doncaster by new or improved routes on both banks of the Humber. The situation must be carefully watched to ensure that the already difficult traffic situation in the Lincoln area is not made worse by traffic taking a more direct route to the south.

293. Although there are three recognised routes to the north-west and Merseyside, they are all at present unsatisfactory and congested. The A6 from Derby to Manchester runs through the heart of the High Peak district. The rough country would make it difficult to improve this to the required standard even if the need to preserve the amenities of the Peak National Park did not impose limitations. The A52 via Ashbourne skirts the highest ground of the Peak but still passes over difficult country which limits the scope for improvement. The longest route is the A516 and the A50 from Derby to Stoke-on-Trent, where it now meets the M6 motorway to Lancashire. There is evidence that traffic on this route has increased at a rate

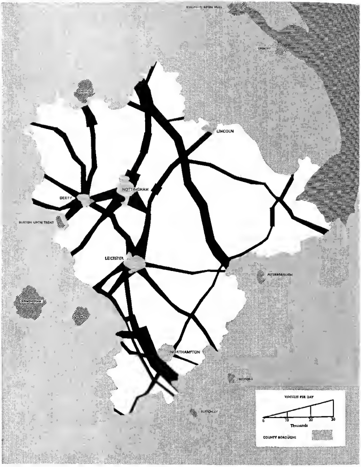


Fig. 17 Trunk Roads and Motorways, Density of Traffic
Compiled from the latest complete Trunk Road Traffic Census taken by the Ministry of Transport. The volume of traffic (represented by the width of the lines) is the average for a 16-hour day during August 1965.
(The Motorway M1 was opened as far as Nottingham in August 1966.)

greater than the national average since the M6 was opened and would have grown even more if physical conditions on A50 had not been so poor. This has increased the congestion in the villages through which it passes and at the Dove Bridge. All three routes radiate from Derby, so that most traffic from the east must necessarily pass either through the centre of that town or along its ring road.

294. Some small improvements but no major works are at present programmed for these roads, although a study is now being made of traffic engineering and management measures by which the Derby Ring Road can be used to best advantage. The possibility of a motorway link between the M1 and M6 located to the south of Derby and thence westwards roughly parallel to route A516 and A50 is however being examined. The completion of this link would seem to be one of the most urgent requirements

of the Region's road network, affording, as it will, good access to south Lancashire and the Merseyside docks.

295. The four routes to Birmingham and the south-west from the Leicester and Nottingham areas probably constitute the least satisfactory part of the Region's road system. The A52–A38 runs from Nottingham to Birmingham via Derby and Burton. The A453 serves the same places via Ashby and Tamworth. From Leicester there are the A47 via Hinckley and Nuneaton to Birmingham, and the A46 to Coventry and the south-west. All these are most important routes for industrial traffic between the East and West Midlands and there is also some holiday traffic, especially on route A46. Only the A52 between Nottingham and Derby has been brought up to modern standards. The alignment and width of the other roads are generally poor and the built-up areas through which they pass, particularly Ashby and Hinckley, are badly congested.

296. The northernmost route (A52–A38) will shortly be considerably improved by work on converting the Derby–Burton stretch to a dual carriageway road. When this is completed the A52–A38 route will be dual carriageway along most of its length, with the important exception of the Derby Ring Road where much delay and difficulty occur. Access between the Birmingham area and the M1 to the north of Derby is also being improved by the construction of bypasses at Mickleover, Alfreton and South Normanton and a new route connecting the A6 at Allestree with A61.

297. No firm proposals have been made for improvements further south. Two possibilities are being considered. The first is the comprehensive improvement of route A453, possibly by the construction of a motorway running roughly parallel to it, between M1 at Kegworth and the Birmingham area. The second covers the improvement of route A46 between Leicester, Coventry and beyond. Like route A453, this might be affected by the construction of a new motorway running south-westwards from the Enderby M1 junction. The economic importance of these routes is such that the improvements proposed must be regarded as urgent. In their absence there is some danger that the economic and social life of the Region will suffer even more seriously.

298. Communications between Northamptonshire and the West Midlands using M1, M45 and A45 are at present satisfactory, but in journeys to the north-west considerable delays and congestion are encountered. These should, however, be eliminated when M6 is extended south-eastwards to join M1 at Catthorpe in Leicestershire, a development programmed for the early 1970s.

299. Traffic to the east coast is lighter than on other routes out of the Region although at weekends in the holiday season there are substantial flows. The A17 from Newark and Sleaford to King's Lynn and beyond is the main route from the northern part of the Region to Norfolk. This converges with route A52 running from Nottingham through Grantham until the two routes cross about twelve miles east of Sleaford where the A52 swings northwards to Boston and Skegness. Congestion on these roads is still usually confined to holiday times. Some holiday traffic to Skegness adds to the already severe problems of congestion in Lincoln.

300. Suffolk and the remainder of East Anglia are served by route A45 through Cambridge, reached from the East Midlands either by A1 and Huntingdon, or from the Northampton area by A428 through Bedford. The planned increase of population in south Northamptonshire and the growing importance of the East Anglian ports increase the need for a high class route passing east–west through the south of the Region.

301. The present relative lightness of traffic on the east coast routes makes it difficult to justify the early investment of a large proportion of the limited funds available for improvements. Work on particularly unsatisfactory sections of road will continue, but the most important project is the construction of an inner ring road at Lincoln.

302. The importance of the route A46 north of Leicester is largely internal to the Region, but it carries a heavy volume of traffic particularly between Leicester and Widmerpool where route A606 for Nottingham branches off. Proposals to construct a dual carriageway on the remaining lengths south of Widmerpool are included in the current road programme and are due for completion before 1970.

303. **The Urban Traffic Problem.** Traffic within the Region's towns, in common with traffic in towns throughout the country, presents a very serious problem. Nottingham, Leicester, Derby, Lincoln, Northampton and Chesterfield all suffer from congestion which can be very acute at peak hours. All the other towns of any size suffer in varying degrees. Substantial programmes of road improvement are planned for nearly all the larger towns but, even when these have been completed, serious difficulties will remain and it is indisputable that road improvement schemes alone are not the answer. Much detailed study of the local circumstances in the Region's towns has already been carried out by the responsible local authorities planning the future layouts of their town centres including highways, but thought in even greater depth appears necessary on making the best use of

the highway facilities already available by means of traffic engineering and management techniques if life in our towns is not to be in danger of coming to a standstill. Further studies are also required to make the best use of all the different types of transport, both public and private, which are available. These problems, which are of course not peculiar to this Region, need high priority.

304. **Road Passenger and Goods Transport.** Of the motor vehicles using the roads which have been described, private cars are the most numerous and are increasing in number more rapidly than the others. (See Appendix 38.) The number of cars in this Region in 1980 is expected to be more than double that in 1965. Nevertheless, one-eighth of the motor vehicles in 1966 are goods vehicles and public service passenger vehicles. There are 88,500 'C' licensed vehicles for the carriage of the operators' own goods, 14,500 other goods vehicles ('A' or 'B' licensed) and 5,300 buses.

305. As in the rest of the country the number of licensed goods vehicles continues to increase, lately at about 3% per year. Even though many coal mines are geared for transport of coal by rail only, there is a continuing trend away from rail to road and roughly 25% of coal is now transported by road from the pits. Large quantities of road-making materials, such as limestone, gravel and furnace slag, produced in the Region add to the volume of road traffic. These, and particularly road surfacing materials carried in insulated vehicles at controlled temperature, are almost inevitably carried by road as they are delivered direct to the sites or road-works.

306. Bus services in the Region are provided by ten undertakings wholly or partly state owned, seven municipally owned transport undertakings and a number of private companies. In certain areas the passenger transport organisation is relatively simple. In the Leicester area, for example, the City is covered by Leicester City Transport and the suburban areas by the Midland Red Company. This area has accordingly been selected for a pilot survey, sponsored by the Regional Economic Planning Council and the Ministry of Transport, of passenger transport by public and private road vehicles and by rail. The object is to assess the present pattern in order to ensure the most efficient and economic use of available resources and to make these more attractive to the travelling public. The needs of the Nottingham and Derby areas, unlike those of Leicester, are met by a complex of undertakings with many overlapping services. Most of these concerns are, however, now considering co-ordinated services.

307. The continuing tendency for road users to change from public transport to private cars has impaired the profitability of passenger transport concerns, and companies, particularly in rural areas, are running many services at a loss. The number of buses licensed in the Region has, however, remained fairly constant over the last three years.

Railways

308. Rail facilities in the Region are good and, under present railway plans, will include some of the busiest centres of activity in the country. (See Figures 18 and 19.) For example, the Nottingham–Derby area is expected to be surpassed only by London in the average number of trunk trains (both freight and passenger) handled daily. Most of this activity will be in freight traffic, in particular bulk movements of the products of the Region's extractive industries, especially coal and ironstone. This is reflected in the Railway Board's forecast for outward movements of freight from the Region in 1984. These are expected to amount to nearly 25% of the total of outward movements from all regions. By contrast the volume coming into the Region will be only one quarter of that going out. Liner trains may also serve the Region. Nottingham, Northampton and Leicester together with Burton and Peterborough just outside the Region are possible future terminals for these services. Although none of these depots was included in the first stage of the liner train projects, some or all may be proposed for development later as services expand.

309. The demand for passenger facilities has been much reduced and changed in character over the last generation, and services have been end will be modified accordingly—but not on a scale which will deprive any major centre of reasonably good services. Some trunk route services will be faster and more frequent than in the past. The Railway Board's present plans for the East Midlands Region are summarised below. Further changes may be made in the light of developing policies.

310. Three main lines will serve the Region. The east coast main line route through Grantham, Newark and Retford will provide through services from London to Grimsby and Cleethorpes via Newark and Lincoln, and to Sheffield via Retford. The Midland main line at present runs through Kettering, Market Harborough, Leicester, Nottingham, Chesterfield and Sheffield, and provides fast services from London (St. Pancras) to all those places and to Derby. Regular services will continue to run from St. Pancras to Leicester, serving such towns as Wellingborough and Kettering. It has not yet been decided whether Nottingham and

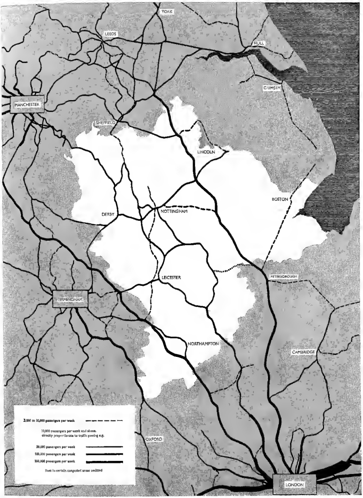

YORK
LEEDS
HULL
GRIMSBY
MANCHESTER
SHEFFIELD
LINCOLN
BOSTON
DERBY
NOTTINGHAM
LEICESTER
PETERBOROUGH
BIRMINGHAM
NORTHAMPTON
CAMBRIDGE
OXFORD
LONDON
5,000 to 10,000 passengers per week
10,000 passengers per week and above, directly proportionate to traffic passing e.g.
50,000 passengers per week
100,000 passengers per week
200,000 passengers per week
lines in certain congested areas omitted

Fig. 18 British Rail, Density of Passenger Traffic, 1961
Derived from *The Reshaping of British Railways*, 1963, by permission of the British Railways Board. The line (shown dotted) west of Peterborough carried fewer than 5,000 passengers per week in 1961 but is shown because it forms part of an important cross-country link between Leicester and Peterborough.

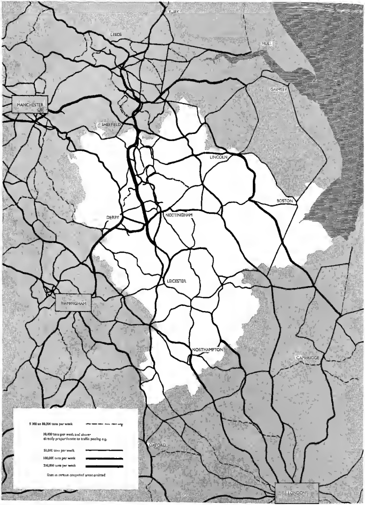


Fig. 19 British Rail, Density of Freight Traffic, 1961
Derived from *The Reshaping of British Railways,* 1963, by permission of the British Railways Board.

Leicester will be served by this line or by fast trains from Euston using the west coast main line and switching to the developed section of the Midland line at Market Harborough. In the latter event, a limited number of through trains from London will serve Derby, Chesterfield and Sheffield by this route and there will be feeder services to these places from Nottingham. Northampton will continue to be served, as at present, by electric trains on a loop off the west coast main line.

311. A fast north-east–south-west route from Sheffield through Birmingham to Gloucester will pass through the Region serving Chesterfield and Derby. Passenger services to Manchester and the north-west will run along the Hope Valley route across the Peak District from Chesterfield. In the eastern part of the Region, services will run from Birmingham to Ely, passing through Leicester, Melton Mowbray, Oakham and Peterborough and from Nottingham to Lincoln via Newark. Although passenger services have been discontinued on the line Kettering–Melton Mowbray–Nottingham, passengers from Melton Mowbray and Oakham will be able to use the Birmingham–Ely service to pick up north–south trains at Peterborough or Leicester. Passenger services are likely to continue to run to Boston from Grantham and for some time from Peterborough, but ultimately it is planned to withdraw the latter along with passenger services on the Nottingham–Grantham line, which will continue to handle freight.

312. The proposals have been explained in some detail in order to make it clear that, contrary to a fairly widespread impression, railway reorganisation is unlikely to have a seriously detrimental effect on services in this Region, provided that a good standard of passenger services is maintained on the Midland main line. Freight operations will continue and in many instances are likely to be developed, and this development may be helped by the elimination of little-used local passenger services. It has to be accepted that road transport has largely superseded the railways so far as local passenger services are concerned, and the increasing congestion on the roads adds importance to the maximum use of railway facilities in handling freight. These facilities are at present substantially under-utilised, at any rate on some lines. The Regional Economic Planning Council has already sponsored a study into the methods of transporting coal in the Region; in view of the significance of the extractive industries further studies of a similar nature would be helpful.

Waterways and Ports

313. The Region is linked to the Humber by the River Trent, its only waterway of general commercial importance. It is navigable by craft of up to 250 tons as far as Newark and 200 tons to Nottingham, the main cargoes being coal and petroleum, local gravel and similar bulk loads. On the Trent Navigation between Shardlow and Gainsborough, traffic carried has varied from 900,000 to just over one million tons annually over the past four years, the least traffic being in 1965. The Region is also linked by waterways to the Thames and London, to the Severn and to the Mersey and the north-west. These links are either narrow canals or are accessible only through narrow locks. Of waterways falling entirely within or closely adjacent to the Region, the only commercially important one is the link between the Trent and Boston made up of the Fossdyke Navigation from the Trent to Lincoln and the Witham Navigation from Lincoln to Boston. Traffic carried on the Fossdyke Navigation has averaged about 32,000 tons annually in the past four years. The remaining canals are of little importance for transport, being mostly narrow and limited to barges of 25–30 tons capacity. To varying extents they are important suppliers of water and are valuable for drainage and recreational purposes but are not commercially viable.

314. Nearly all the Region's foreign trade is handled by the great national ports outside the Region, in particular London, Liverpool and Hull, and, to a lesser extent, by the other Humber and East Anglian ports.

315. The only port in the Region is Boston, a municipally owned port which, because it is inland and cannot accommodate ships of over 17½ feet draught, is unlikely ever to be a large port. It has an annual trade (1965) of about 660,000 tons with continental Europe or along the coast. Inward traffic consists mainly of timber, fertilisers, fruit and vegetables, perlite, steel and pig iron, starch, grain and glucose, and outward traffic of coal, cattle, grain, steel and general cargo including agricultural implements and machinery. The port serves its immediate hinterland rather than the Region as a whole, but modernisation is taking place and there is potential for development.

Air Services

316. The East Midlands Airport, opened in 1965 at Castle Donington near Derby, is a co-operative venture by the County Councils of Derbyshire, Leicestershire, Nottinghamshire and the Corporations of Derby and Nottingham. It has made rapid progress: up to 85,000 passengers were expected in the first year but there were over 118,000, and freight increased from 77,000 kilograms in the first six months to a total of nearly 546,000 kilos in the first year.

By the beginning of its second year of operation, the number of passengers and aircraft movements were almost double those of twelve months earlier and the freight being carried had increased fourfold. The airport has its own base airline operator (British Midland Airways Ltd.) which provides scheduled services within the British Isles and to Europe. Other airline companies provide scheduled services, or inclusive holiday trips to Europe, or executive flying facilities. A car ferry service to Rotterdam was scheduled to start in September 1966. There are plans for further development over the next five years by extending the runway and buildings at a cost approaching £1½ million.

317. Suggestions have been made that the airport might ultimately be developed as a major international airport with services extending beyond Europe. It has some advantages as an alternative to Ringway when that airport reaches its capacity (although this is not expected until the 1980s) and the East Midlands Airport has also been suggested as a possible alternative to a third airport in the London area by attracting traffic which at present moves from the Midlands to London. Another proposal is to use part of the site as a customs clearance depot for seaborne freight brought there under bond.

318. The airport is well-placed in relation to the motorway, but local road communications could be improved. It seems certain to be a valuable and stimulating factor in the Region's economy.

Pipelines

319. Pipelines are an economic method of transmission for certain types of substance, when the quantities to be moved between two fixed points will be sufficient over a lengthy period to permit the low operating costs to make up for the high initial capital cost.

320. The UK Oil Pipelines Ltd. construction now under way from the Thames Estuary at Shell Haven to the Mersey at Stanlow to feed petroleum products into the Midlands will pass through this Region, feeding the oil companies' depots along its route. When completed towards the end of 1967, it is expected to convey one million tons per year initially, perhaps rising to six million tons after fifteen years. The development of block trains on the railway system may, however, provide a competitive alternative and in fact all the major oil companies have now signed long-term agreements with British Rail.

321. Pipelines can also be used for solids in liquid suspension. Pipelines now convey chalk slurry from Dunstable to a cement works at Rugby and fuel ash from the new power stations on the lower Trent at Staythorpe to gravel workings at Hoveringham.

Co-ordination of Transport

322. It is becoming increasingly apparent that the transport system must be planned as a whole to avoid wasting scarce financial resources and to enable each section of the transport industry to concentrate upon the job for which it is best suited and which it can do most efficiently.

The Supply of Power

323. The availability of adequate power supplies is a prerequisite of any regional development. The East Midlands is an exporter of energy and the adequacy of supplies within the Region for any growth in demand will depend very largely on the way demands elsewhere grow too.

Solid Fuels

324. Coal is present in ample quantity for the winning; the major problem is to ensure that there is an adequate supply of men-power for the purpose, or that mechanisation and automation enable the industry to meet the demand with the labour that is available. For the rest, the question is one of transport, and a study of the detailed problems arising in a restricted area has been undertaken to see what measures would be beneficial.

325. The position of other solid fuels is more difficult. The coke produced by metal producing industries is virtually all consumed in their own blast-furnaces; the small balance is unsuitable for domestic use. The other traditional source of coke is the gas industry, and the East Midlands Gas Board produced some 683,000 tons of coke and other solid fuels in 1964–65; this was less than their sales—10,500 tons being drawn from stock—and production is tending to fall as the gas industry moves away from its original basis of coal.

326. Other smokeless fuels are produced in quantity in the East Midlands, both by the National Coal Board and by private industry. They are, however, produced for the national market, and distributed through the normal channels, so that no regional breakdown of distribution is available. Further plant for their production is under construction or contemplated, but the potential demand is difficult to estimate. It will depend partly on the extension of smoke control zones and partly on the reaction of individual consumers to the Orders creating them and the extent to which consumers continue to rely on solid fuels.

Gas

327. Gas supplies to the Region are distributed by the East Midlands Gas Board, whose area also includes Lindsey, and the Sheffield, Rotherham and Doncaster districts.

328. The supply of energy in the form of gas was traditionally based on the coal carbonisation process, but the economic limitations inherent in this produced a static period in the industry up to about 1961. Increasingly since then, new types of process and new sources of supply have restored buoyancy and economic competitiveness to this industry. It was still true in 1964–65 that 72·8% of the gas sold by the East Midlands Gas Board was derived from coal, but imports of natural gas and production based on the oil industry have been growing very rapidly in importance. The national methane grid pipeline passes through the western counties of the Region, and the significance of recent explorations under the North Sea can hardly be over-estimated. The Gas Board has laid down a 'super-grid' of 30" and 24" diameter pipeline running from Killingholme on the Humber through the Region to Leicester, with branches to Newark, Melton Mowbray and Stamford. This pipeline, up to 1,000 lb. per sq. in., is to be extended to Northampton, and will be of strategic importance in connection with North Sea gas developments on Humberside. It, together with other connecting mains, has secured the integration of all the Board's principal supply plants.

329. With the ever-increasing demand for gas, work goes on continually to extend, reinforce and renew the mains system; proposed expenditure for this purpose in the 1966–67 financial year is £8·5 million. Sales of gas in 1964–65 showed the greatest annual increase since vesting date, and the demand is expected to continue rising at about 7% a year, 15% at peak periods. The domestic load has now overtaken the industrial load as the Board's major market, largely due to greater use of gas for central and space heating. The concentration of peak demand is a growing problem. Short-term excesses of demand over supply can be met from stored supplies, which may be in gas-holders of the conventional type or in high pressure storage, part of which consists of the Killingholme–Leicester pipeline. A fifty-mile gas main is also being laid, connecting Pentrich to Coleshill, to link up the gas resources of the East and West Midlands. Storage to meet large seasonal changes in demand and to provide winter emergency supplies would need to be on a much larger scale and a search is being conducted for underground geological formations, in addition to that at Calow, in which gas could be stored until required.

330. While the economics of distribution make gas principally an urban fuel, mains must be laid early in developing areas, and the maximum possible advance information about urban and industrial development is desirable.

Electricity

331. The link between the coal industry and electricity generation is increasingly important nationally, and is particularly strong in the East Midlands. Coal accounted in 1964 for about 80% of the total fuel used in electricity generation and electricity is coal's largest customer—in 1964 taking 35% of the National Coal Board's output. An increasing proportion of national coal production is likely to be used in this way, and it is accepted that the electricity industry must be largely reliant on its coal-fired stations for many years. It is in this context that the chain of power stations along the Trent is significant to the Region.

332. National distribution of electricity supplies is now being based on a 400 kV super-grid, provided by upgrading most of an existing 275 kV network, and by new heavy duty lines at the higher average voltage needed after 1966. The establishment of this system is expected to be largely completed in England and Wales by 1970.

333. The East Midlands Electricity Board distributes electrical power to an area rather larger than the East Midlands Planning Region and including Skegness, Uttoxeter, Burton-on-Trent, Tamworth, Nuneaton, Coventry and Leamington.

334. A considerable proportion of the Board's annual capital expenditure goes in improving the security of supply to consumers, and almost 54% of the Board's 1964–65 total expenditure on capital assets (£14,204,816) was for the provision of new supplies from the Central Electricity Generating Board, the general reinforcement of the mains system and the standardisation of supplies to consumers.

335. During 1964–65, the consumption of electricity in the Board's area rose by 7·1% compared with the previous year, the biggest increase being in the sales to industrial consumers who, although comprising only 10% of the total number of consumers, were responsible for nearly half the total consumption. Some 95% of farms in the area are now connected to the supply system.

336. The consumption of electricity has grown at a rate far exceeding that of the growth of population. There is no reason to believe that this will not continue, but the Board anticipates no difficulty in meeting demand in any area where adequate warning is given. As with gas, the earliest possible advance information of new development is important.

Water Resources and Water Pollution

337. In 1963, the Region consumed daily about 47 gallons of water from mains supplies per head of the population, compared with an average of 52 gallons for England and Wales. The improvement in living standards, the increasing introduction of water-using appliances such as washing-machines, industrial expansion and the demands of agriculture particularly for spray irrigation have all led to a very rapid increase in the rate of consumption. It has been going up recently by 2½% per annum. If this trend continues, daily consumption per head in England and Wales will have reached 65 gallons per head in 1981 and 100 gallons by the end of the century. The expected increase in the population will be a further factor in increasing consumption. For the East Midlands Region, using the population projected in Chapter 2 and allowing for a certain amount of 'trade' in water with other regions, the demand for water is likely to rise from 151 million gallons per day in 1963 to 260 million in 1981 and probably 500 million in 2001.

338. Much careful planning will be needed to ensure that water is available in the right amounts at the right time. Close liaison with local authorities, including authorities in other regions, will be essential and large capital investment will be required. The more difficult it becomes to meet essential needs, the more important it will become to keep wastage and pollution to a minimum.

339. When the prospects of the different parts of the Region up to the end of the century are reviewed, it is found that the authorities serving Derbyshire should be able to meet demand from the River Derwent catchment area, although it may not be possible to extend the Derwent Valley Water Board system to provide any further supplies to authorities in Leicestershire and Nottinghamshire.

340. Central Nottinghamshire and the area of the Lincoln and District Water Board will be able to rely on supplies pumped from the Buntar sandstones of central Nottinghamshire and the limestone ridges of Lincolnshire. A hydrological survey of the Bunter sandstones, parts of which are believed to contain reserves, is under way.

341. Kesteven and Holland do not present any serious problems, but they may need supplies from the Welland and Nene basins in the more distant future, and these may in turn be affected by developments in the Peterborough area.

342. Areas with potentially more critical problems are south Nottinghamshire and the City of Nottingham. Both should be able to meet extra demand from the River Derwent catchment area up to the early 1980s, and water authorities in Leicestershire, including the City of Leicester, expect to rely mainly on the River Dove for the same period.

343. Subsequently, all these authorities expect to need to take water from the River Trent. It may indeed be necessary to use the river as a source of potable water before 1980. If this is to be done, however, the present high level of pollution in the river water will have to be radically reduced. Two-thirds of this pollution originates in the River Tame in the West Midlands Region as the result of its passage through Birmingham and the Black Country. The Upper Tame Main Drainage Authority is already spending some £23 million on improving the treatment of sewage effluent from the Greater Birmingham area, and this will result in some improvement by 1970. But if the Trent is to become a source of potable water towards 1980 an even greater improvement of the Tame must be effected, not later than 1975, and it is understood that additional schemes likely to cost a further £12 million are to be prepared by the Drainage Authority in order to achieve the standards of purity laid down by the Royal Commission on Sewage Disposal 1898–1915. Additional work may also be necessary on the Trent itself and its other tributaries. The Trent River Authority is taking the action open to it to achieve the required standards at the required time, but the tightness of the timing and the large capital sums involved mean that the situation will have to be carefully watched.

344. Northamptonshire, one of the driest areas in England, has the most immediate problem of the Region. There have already been some difficulties in meeting demand in mid-Northamptonshire, although these should be met by new works starting to operate in 1966. The Great Ouse Water Authority should then be able to meet needs up to the early 1970s, but afterwards a further major scheme will be required. The Mid-Northamptonshire Water Board is considering a new pumped storage scheme in the Welland and Nene basins, with the possible co-operation of neighbouring water authorities.

345. Other, less conventional, sources of supply have been suggested. The proposal for a barrage over the Wash would have the improvement of water supplies as one of its objects. The desalination of salt water and the recharging of underground sources such as the supplies in the Bunter sandstones are other possibilities and the latter is likely to be started experimentally in a year or so. However, until more is known about the feasibility and economics of these proposals, it would be

prudent to rely on the conventional sources of supply in meeting future requirements.

346. Water pollution is caused by the use of rivers for the disposal of waste, including both sewage effluent and industrial discharges. There is probably no insuperable obstacle to the treatment of this waste to render it relatively harmless and inoffensive before it is discharged into the rivers, but larger capital investment is required than either local authorities or industry have contemplated in the past.

347. A measure of the problem is given by the sewage effluent content of the rivers. It is estimated that 30% of the dry summer flow of the Trent where it enters the Region, 40% of the River Soar and 50% of the Erewash consist of sewage effluent. The position is made worse by the very considerable industrial pollution.

348. Three major lengths of river in the Region are in a particularly polluted condition. These are the Trent above its confluence with the Dove, and the Rother and the Erewash for most of their lengths. Short lengths of other streams and rivers are in a similar condition and larger stretches, although not in this worst category, are still classified as unsatisfactory. These include the Trent below the Dove, the Soar and its tributaries, the lower Derwent, the Nene below Northampton and the Maun.

349. As the population increases, more water is taken out for use and more sewage is discharged into the rivers. As a result the proportion of sewage effluent rises even higher. For instance, the amount of sewage effluent discharged into the Trent by the Birmingham–Black Country conurbation is 90 million gallons per day. On present trends this would rise to 310 million gallons by the end of the century, compared with the present dry summer flow of the Trent at Nottingham of 400 million gallons a day. The Trent problem is particularly serious, because of the probable need to make its water fit for drinking. The more general effects of the destruction of a potential recreational asset are also to be deplored. Further study of the remedial action needed and of the benefits it would bring is required.

9 Town and Country

The Larger Towns

350. The people of the Region live in communities of every size and pattern, from the large cities like Leicester and Nottingham to small hamlets and isolated farm-houses; but there is no major conurbation. We have examined the basic services which are provided in the Region, and it is time to look more closely at the actual pattern of our towns and villages.

351. Towns are changing almost before our eyes. Great blocks of offices and of flats are springing up to dwarf the castles, churches and town halls which were at the traditional heart of our cities. Huge multiple stores and, recently, supermarkets are replacing many of our accustomed shops. More and more people are moving away from the central areas, demanding light and air and gardens on the outskirts of the town. Technology has made us richer than our ancestors, and has provided forms of transport which make possible longer and longer journeys to work, to shop, to worship or to play. The results of this are only too obvious; morning and evening and sometimes all day long our main roads and our business streets are choked with traffic. As population increases and the number of cars rises even faster, the position is getting steadily worse.

352. The demands made upon large towns have changed more quickly than the physical redevelopment necessary to meet them. The local authorities responsible for deciding upon the general planning (including road networks) have undertaken considerable research and have suggested possible solutions. Of necessity these are all costly and protracted. To indicate the complexity, some of the difficulties and considerations are mentioned below.

353. The most obvious problem is that of traffic congestion. This is not new. At the end of the second world war there were 3 million motor vehicles in the country. There are expected to be 18 million vehicles by 1970 and 27 million vehicles by 1980. On the basis of our estimates of population growth in the Region and the national estimate of vehicles, the number of vehicles in the Region by 1980 may well exceed 1¾ million (about double the 1965 figure) with the prospect of a further 50% increase in the following thirty years.

354. One conclusion of the Buchanan Report, *Traffic in Towns* (1963), was that a town serving about 75,000 people, half inside its own boundaries and half in its hinterland, could provide for virtually all the use of vehicles that people are likely to want, but that this would require drastic and expensive measures on a scale not hitherto contemplated for a town of that size. It is unlikely that any larger towns of traditional layout will be able to provide for all the use of vehicles desired without quite disproportionate expenditure and destruction of environmental standards. From this it follows that in preparing plans for the larger towns in the East Midlands, the respective local authorities may have to accept the need to restrict traffic flows by limiting the facilities available for commuters in the town centre. The implementation of physical plans will need to be supplemented by traffic management schemes to ensure that the existing road system and the limited parking facilities are used to their best advantage.

355. It will also be necessary to take account of the trend for some town centre functions to move outwards. It is generally desirable to relieve pressure on the centre by the relocation of some factories and offices, but this itself can add to cross-town journeys and to the difficulties of public transport. The execution of such a policy is, therefore, very complex and protracted. Some relief, however, may be obtained by the application of this principle to shops and may take several forms, the most usual being the development of neighbour-

hood shopping centres in the residential areas surrounding a town. Big departmental stores and the highly specialist shops which deal with the less common but often valuable commodities tend to stay at the traditional centre. The alternative development, very common in America, is that of the 'out-of-town' shopping centre, but whether the success this has had in the United States will be repeated in this country it is too early to say.

356. Many town centres, although representing considerable capital assets, are in need of renewal. The buildings may be unsuitable for their present purposes and difficult to modify. Few buildings retain their usefulness indefinitely, and examples of unattractive ageing are frequent. Many, also, were designed for quite different techniques, to be serviced by labour which was ample and cheap; they are now wasteful and uneconomic, and they stand in the way of further development. The streets of town centres are congested. In the short-term, devices of traffic management—re-routing, one-way streets, parking restrictions, play-streets and the like—can ease matters for a time, though not without unfortunate side-effects; but it has become increasingly clear that the road and street patterns laid down generations ago are inappropriate for modern conditions. There is a very strong reason, therefore, to examine the whole centre of each town, and within practicable limits to redesign both the street pattern and the distribution of buildings abutting on it. Any redevelopment must allow for amenity values and should be designed to preserve the character and individuality of the town; it should at the same time attempt to provide for some segregation of the pedestrian from the motor-car. A round score of the towns in the East Midlands are known to have in hand at various stages plans of this description. The redevelopment of town centres, however, is one of many contenders for the limited amount of capital investment available. The higher priorities given to housing, schools, hospitals, roads and industrial development mean that, for the foreseeable future, progress in town centre redevelopment will be slow.

357. Lack of progress is not so much due to lack of plans as to the shortage of funds to implement them. However, within limited programmes, schemes are going forward to divert through traffic and to ease congestion. The local authorities with statutory responsibilities for planning and highways have given considerable thought to the production of long-term plans. Not all such plans will either be approved in their present form or fully implemented, but it is important to know of them. There remains a danger that, inspired by an optimistic local patriotism, neighbouring towns may be too ambitious in relation to the effective demand of the whole area. Co-ordination and further study are needed.

358. The Leicester Traffic Plan published in 1964 provides an example of imaginative thinking; though it has not been endorsed by the City Council, and the financial objections may be insuperable. This Plan, which is currently being reviewed in the light of the resources likely to be available in the next twelve to fifteen years, envisages a system of interchange car parks on the roads towards the City centre. Here cars would be parked and the drivers and passengers conveyed to the City centre by public transport of a rapid and efficient kind. Suburban shopping, entertainment and sports centres near these interchange car parks would relieve some of the pressure on the central area. Some public transport needs would be met by a mono-rail system. Nevertheless there would still need to be an inner motorway, and radial routes would have to be partly to motorway standards. Pedestrians would be partly catered for by segregated pedestrian ways, possibly supplemented by pedestrian conveyors. The cost of this Plan was estimated at £30 million for the inner motorway, £77½ million for other primary distributors, and £27½ million for garages and car parks, a total of £135 million, to be spent over a period of thirty years. This amount excludes some cost of improvement of secondary feeders, the mono-rail system, the improved and possibly subsidised bus system and all the expenditure outside the existing City boundary. The central area public and private car parking provision would, in 1995, amount to about 22,500 spaces, compared with a calculated peak requirement for 67,000 private cars if unrestricted private car access were provided.

359. Nottingham has also produced a comprehensive plan providing for urban motorways around the City central area, twelve radial and circumferential routes including two new river crossings and improvement of the outer ring road. This plan envisages that 18,000 car parking spaces would be provided in central areas and commuter access would be restricted to about 40% of likely commuter demand. Even so, these urban motorways and the main routes into the City would need to have dual three-lane carriageways. The development of public passenger transport services is proposed to cater for the other 60%, many of whom would use their private cars if able to do so. It is envisaged that buses would continue to penetrate both the suburban residential areas and also the City centre—in some cases by preferential routes from which other traffic would be largely excluded.

360. Derby has produced a traffic plan for the period 1964 to 2010 which describes in detail proposals for new roads, traffic management and parking policies and the routing of buses. The road proposals essentially consist of a high quality inner ring-road within which there will be an inner circulatory road, in the shape of a figure eight, serving town centre properties and also carrying a local bus service. By 1980 it is estimated that 9,700 car parking spaces will be required, of which 2,700 will need to be in the town centre for short-term waiting, 4,000 for waiting up to three hours and 3,000 for longer periods. The two last mentioned categories will be in the vicinity of the inner ring-road. A trunk road by-pass is proposed for Lincoln, which would remove much of the through traffic now funnelled through the City centre, and the City Council has prepared a plan providing for a ring-road close round the City centre and converting the main shopping streets into a pedestrian precinct. Because of town expansion proposals, Northampton has deferred plans for the town centre. The consultants appointed are now working on the problem and their preliminary report is expected during 1966.

The Older Mining Area

361. For many of the towns in the Region, based as they are on well-established and prosperous industries, the question of central area redevelopment is one of cool judgment; but then the town can take it up or leave it alone. The situation of some other towns is not quite so easy. On the older parts of the Nottinghamshire–Derbyshire coalfield where pits have closed or the coal seams are approaching exhaustion, the position is different. It may well be that the immediate effect of a pit-closure upon the life of a town will be fairly small; most of the men employed will get work elsewhere, though some of them will have to travel; some will retire, and some may move away altogether. The towns affected are near enough to other areas with an active demand for labour to make it probable that cases of acute personal hardship will be rare, and the immediate effect on the towns comparatively small. The long-term effect could be more serious, because the closure of pits removes the traditional outlet for male employment; if the boys have to travel far to work, they will tend to set up house somewhere else. It follows that these towns, or at least some places in the area, must attract male-employing industry on an appreciable scale, or the towns will themselves decline very considerably over a measurable period. The signs have been apparent for some time. Four of the urban districts of Derbyshire actually declined in population between 1951 and 1964, and in several others the outward movement was only masked by the excess of births over deaths. This is despite the fact that unemployment figures, though higher than the regional average, would usually be regarded in many parts of the country as low.

362. These towns are therefore in need of renewal, and the problem is far from easy. In the end the solution must depend on two factors—the willingness of firms to move to, or develop in, this area; and the attitude of the Board of Trade as agent of the government. On the last it must be said that the Board of Trade will do its best to steer to development areas any projects which would be economically viable there, for the unemployment rates in development areas are still, generally speaking, much higher than in Derbyshire. But the Board of Trade approves projects for the coalfield area once it is satisfied that there is no development area prospect and that the projects concerned are suited to the needs and potentialities of the area. There are not very many of these projects at any one time, and the attractiveness of different areas may well determine which will be favoured by the industrialist.

363. The attractiveness of an area to the industrialist depends on many things. One is communications, and here the area we have been considering is exceptionally well-placed—with Nottingham and Derby at the south end of the strip, Sheffield and the West Riding at the north, a railway line designated as one of the major railway trunk routes running right through the area and the motorway about ready for use just off to the east. Its transport facilities are therefore conducive to growth.

364. In labour terms the problems of the area are more complicated. There is very little unemployment, and present policies accept that what is required is the importation of industry which will build up over a period to match the release of labour from the mining industry and the entry of new labour from the schools. The mining industry does not want to lose its labour—it would sooner that it transferred to the newer pits in the East Nottinghamshire coalfield which require more man-power. It has, however, to be accepted that a certain number of men would very much sooner leave the industry than move their homes, and not all the re-deployment of miners could take place within reasonable daily travelling distance. Looking at the longer term position, there will be a retraining problem for any industry which wants to employ people who were previously miners, but the technical level of the mining industry today is such that this problem should not be very difficult to solve, particularly for the younger men, and there is certainly no reason to believe that the school-leavers in this area

will be less adaptable than those anywhere else. The long continued local traditions of industrial employment will be a positive advantage to any incoming employer. So despite the difficulties which all employers face when they move from one area to another, the general advantages of this area would seem to be quite considerable.

365. The area does however suffer from two disadvantages; in the first place the problem of mining subsidence is to be found in most parts of it. Only a detailed investigation of particular sites will show where an industrialist could be advised to place a factory. In the areas where mining has ceased or is ceasing, the problem is in essence temporary; after a period of subsidence and subsequent settlement it can be expected that most of the ground will become stable again, and the process has gone further in some areas than in others. The hazards of subsidence in this general area must certainly be watched, but they are not such as to be prohibitive to new industry. The second drawback of the area is that it bears many of the scars of the Industrial Revolution, but this can be put into perspective by looking at the general problem of dereliction throughout the Region.

Dereliction

366. The first difficulty is that 'dereliction' as defined by local authorities and government is not quite the same thing as dereliction as it is seen by the population, and regarded by newcomers including incoming industrialists. The available figures relate to land which has been left in a derelict state by previous activity. This means, for instance, that a colliery spoil-heap is regarded as dereliction when the pit has closed and additions to the spoil-heap have been completed, but it is not regarded for this purpose as dereliction at the time when the mine is still active and the size of the spoil-heap is constantly increasing. The same is true of sand and gravel workings, where dereliction is only recorded when the work has been completed and in those cases where no action has been taken to restore the land to any normal use and beauty; but of course to the public and to anyone examining the potentialities of an area it does not matter a great deal whether the process is still continuing or has been completed. An eyesore is still an eyesore. However, this Region suffers much less than many others from the problem. If the figures for England alone are considered then at the 31st December 1964 there were in the country 84,900 acres of derelict land, but of this total figure only 6,150 were in the East Midlands Region. This compares with 19,800 in the Northern Region, and, surprisingly, 16,000 acres in the South West Region.

367. Of the total derelict area in the East Midlands Region nearly a quarter is due to spoil-heaps and about half is due to excavations and pits; the remainder is classified as 'other forms of dereliction'. Nearly a third of the whole occurs in the county of Derbyshire, and although this will include such things as limestone workings in the Peak District, it is clear that much is in the older mining area.

368. Of the total acreage of just over 6,000 which is regarded as derelict, local authorities estimate that 3,900 acres would justify treatment and could in some way be reclaimed. It is a lamentable fact that during the year ending in December 1964 only 116 acres were in fact reclaimed throughout the Region. Control over new derelictions has been tightened. There is now no dereliction caused by ironstone workings, because there is full restoration as a condition of original permission to extract the ore, and the scars which were left by earlier workings before this provision came into force have also been almost entirely dealt with. The techniques of restoration have indeed changed, and it may be true that some areas were left in a state which would not at the present time be regarded as entirely satisfactory. Control in the case of other excavations is in the hands of the local planning authorities, and they normally impose a condition about restoration before giving planning consent. There are however limits to the reasonableness of any such course; the national demand and requirement for gravel, for gypsum, and for limestone, is very considerable and it would not be in the national interest to impose stringent conditions in every case. The forecast rate of production of sand and gravel suggests that 9,000 acres of land in the Region will have to be worked during the next twelve years. Some of the resulting pits will be used for disposal of pulverised fuel ash from power stations, but not all these pits or those left by extraction of other minerals will be readily filled in this way.

369. Control in the case of the coal industry is rather different because many of the spoil-heaps are on land owned by the nationalised industry, and local control is not easily exercised. The national need for coal is clear and the desirability of keeping the price per ton within bounds is also frequently emphasised. In these circumstances the number and size of spoil-heaps tend to increase. There are 37 collieries in Nottinghamshire which are planned to produce 31 million tons of saleable coal yearly, 17% of the national output by 1970. The Nottinghamshire collieries alone will have to dispose of about 13 million tons of waste yearly by the end of the decade. This would cover 130 acres each year if tipped in cones not exceeding 100 feet high or 325 acres by

contour tipping. Already 2,225 acres of the county are covered by spoil-heaps and contour tipping would cover a further 11,000 acres by the end of the century if output remained constant. Opencast coal sites are, on the other hand, restored to a high standard.

370. There are other forms of dereliction less easy to control—the abandoned factory and the marshalling yard which was associated with it, the waste land which may lie between it and the road or the railway, all the old outhouses and the heaps of rusting machinery which may have been abandoned many years ago may still cause a sort of litter on the landscape. It needs very little of this to cast a gloom upon an area, and unfortunately this type of dereliction is too often closely associated with ageing houses of a pattern which we should not now find satisfactory. Whole areas which were full of life and bustle something less than a century ago may now be merely a depressing reminder of the past. It is however in particular areas where the immediate need to prepare for new industry is most urgent that action seems most clearly overdue.

371. Dereliction in the Erewash Valley, for instance, will most clearly be an obstacle to its redevelopment, but the geographical advantages and the human resources of this area are such that the obstacle can surely be overcome. Elsewhere in the Region although there is dereliction in places it is on an obviously manageable scale and it should prove no deterrent to any developments which are found desirable in the national interest.

The Countryside

372. There are other areas of the Region where for quite different reasons somewhat similar questions about the future arise; over a long period now the agricultural industry has been producing greater volumes of commodities with a slowly but very steadily reducing labour force. This reduction in demand for labour has coincided with a vastly improved availability and speed of private transport, and with the spread and increased immediacy of the media of mass communication including television. The effect has been to give a constant stimulus to the desire of the rural population for more of the opportunities and attractions of town life, just at a time when transport has brought the towns nearer. In consequence not only have the numbers of workers in agriculture decreased, but more and more of them have been able and willing to live much further from their work. The original function of the smaller villages and hamlets of providing housing for the agricultural population has been very much diminished.

373. The changes in transport have in some areas worked in the opposite direction too. It is now possible for urban workers to live in the countryside, and still be near enough to the town not only to work there but to take such part in the social life of the town as their tastes dictate. Obviously the distance involved has a bearing on this; the better-off can live further out because they can afford faster transport for more members of the family, and they are to be found in a very wide circle round every town. Nearer in, though still often in villages, the less affluent townsmen are to be found in larger numbers.

374. There are identifiable areas where, despite the increase in population experienced by the country at large, the numbers of people have declined since 1951. The most considerable sectors of this type are the country parishes of Holland and East Kesteven. The richness of the soil is such that a good living can be extracted by the intensive cultivation of quite small acreages. This of itself would almost certainly prove to be a limiting factor and there seems little reason to fear that there will be a serious decline in the population of the whole area. However it seems probable that the existing tendency for the people to concentrate in fewer and larger centres will continue. Some of the smaller settlements may well disappear altogether over a period.

375. A second area which has been effected in this way is the eastern part of Northamptonshire, but the loss of population in this area seems likely to be very temporary. Agriculture's reduced demand for man-power will no doubt persist, but the neighbouring towns, Peterborough, Wellingborough and Corby in particular, are growing, and the numbers of people working in them but seeking homes in the country seem likely to increase sharply enough to offset the reduced agricultural man-power in a very short time.

376. The third part of the Region where the country parishes have shown some decline in population is in the hills of Derbyshire. The small towns of this area on the other hand have shown increases, and the future of the area will clearly be largely influenced by the existence of the Peak District National Park and national policies relating to it.

National Parks

377. The fundamental philosophy behind National Parks is that their enjoyment and exploitation by our own generation should be

such that it is compatible with the preservation of their natural beauty for the enjoyment of posterity. The National Park Planning Boards are the trustees for our successors, and as such they have a perpetual series of problems to resolve. The only National Park in the East Midlands is the Peak Park, and that itself covers a considerable area outside the Region as well. There is general agreement that new industry should not be introduced into the Park, and the topography of the area is not such that this restriction is likely to be regarded as onerous. Agriculture must not, of course, be prevented from continuing to increase its efficiency, and the service industries ancillary to it must here, as elsewhere, be permitted such change and development as changes in technology require; but this is unlikely to present a major difficulty. Limestone quarrying survives as an active and expanding industry, and inasmuch as it not only introduces machinery and traffic into the heart of the countryside, but also permanently modifies the shape of the hills, this obviously presents a problem. But the industry is an important part of the local economy, the quarrymen have their point of view, and the product is important to national development. Control is and is likely to remain a matter of compromise between these considerations and the desire to preserve undamaged the amenities of the National Park.

378. One of the more intractable problems of all Britain's attractive mountain areas is that of water. These areas are the gathering grounds for most of the water which will be used by industry and consumed by people in the industrialised lowlands, but even in the hills there are wet seasons and dry ones. River flow must be controlled and water must be conserved. The expected increase in population will clearly increase the pressures of the heavily populated areas for reservoirs and other works high in the hills. When National Parks are involved the Park Planning Boards, by the very nature of their responsibilities, will require strong evidence of the justification for any proposals. However the need will obviously be great, and the alternatives are likely to be costly. So far as the East Midlands is concerned the importance of the waters of the Derwent and the Dove is considerable, and some need for further works around their headwaters seems likely to emerge. To find a solution compatible with National Park policy may not be easy.

379. The other major problem of the Peak Park is access. The Park authorities would prefer to reduce through traffic through the area, while at the same time they would like a high standard of roads within it to enable as many people as possible to enjoy its amenities. Here perhaps modern transport technologies are on the side of the park authorities. The A6, the classic route from London and the East Midlands to Lancashire, Carlisle and Glasgow, goes right through the Peak Park, but to bring this road up to or near to motorway standards would require major engineering. To build more modern roads avoiding the Park is likely to be much cheaper, and although this would add appreciably to mileage, the difference in distance is much less significant than it used to be. Already, indeed, most of Lancashire's traffic to the south avoids the Peak area. As roads to the north and south are improved, the pressure of through traffic on the National Park may well diminish. Nevertheless the existing road system will need to be adequately maintained and improved where necessary, and possibly some limited new roads in the Park may be needed. Even the A6 will in due course require improvement over appreciable lengths to cater adequately for industry in the Park and for tourist traffic.

380. The problem of a road network to permit adequate access to the Park itself may be more difficult. Pleasure traffic tends to produce a few periodic peaks, for which the present internal roads are inadequate. But their improvement, and the provision of lay-bys and car parks which are also required to permit wide public enjoyment, will be expensive when the length of time during which they will be fully used is considered, and too much provision might indeed damage the visual amenities. The extent to which such improvements need to be supplemented by extra facilities for refreshment and entertainment is also a matter of nice judgment.

381. These considerations, peculiar to a National Park, have to be reconciled with the economic interests of the people actually living in it. Quarrying and the tourist and catering industries make a vital contribution to the income of the district.

382. Up to the present National Parks have been seen chiefly as areas of fine countryside which are essentially separate from the urban concentrations. While there is no doubt about the need to preserve them in their existing form, it is also becoming apparent that there is a need for setting aside more modest areas of countryside, more accessible to the towns and better adapted to the leisure requirements of their inhabitants. To meet this problem it is likely that the National Parks Commission, the local authorities and bodies such as the Regional Sports Council will be encouraged in the future to participate in the creation of new Country Parks. These would be smaller than the present National Parks, nearer to the big towns, and

would provida a variety of recreational opportunities.

Industry and the Small Town

383. There ere some further problems common to all the areas where agriculture has been treditionelly the predominant industry. It is not only the small villages whose function has changed, but the large villages and small market towns also have changed in character and economic function. They too serve fewer people, and their people are more able than ever before to travel far afield to satisfy their needs. Many of the smell local markets ara far less patronisad than they used to be, and elthough individuel firms may themselves be serving a very necessary economic function in the service they give to agriculture, their activity alone will neither enable the whole town to flourish at its traditional level nor allow it to offer the life its residents are coming to expect. In consequence there is a desire by many smell urban areas of this type for some small-scale industry quite unconnected with agriculture—an industry which will both employ the unoccupied and, at the same time, by providing another source of income, help to maintain the community.

384. This problem has much in common with the needs of the mining villages. In both cases the greetest need is for female-employing industry to provide an outlet for energies which are less domestically involved than in any previous age. There is also a supplementery need for some male employment, so thet the activity of men is not compulsorily confined to whichever is the predominant industry. At a period when the country is gravely short of labour, and when productivity requires thet individuels should realise es much as possible of their potentielities, tha type of development wanted by the small town would clearly be in the national as well as the local interest. Unfortunately it is easier to define what is wanted then to provide it.

385. A quita casuel tour round the villages of Nottinghamshire and Derbyshire will reveal how widely units of the hosiery industry have been dispersed, end a similer glance around Leicestershire and Northamptonshire will disclose the wide scatter of the footwear industry. The latter is traditional, and includes much male employment, but there is in the industry e movement towards concentration at the expense of the scettered units. The wide spread of employment in hosiery largely represents the need of employers to use femele labour where they can find it. The example of these two industries has not been followed to anything like the same extent by others, and there ere clearly drewbacks in distance from suppliers or customers, and, perhaps more important, in exercising managerial control of branch factories located at a distanca from a major town. Industrialists look not only for labour, but for at least a proportion of labour which either has technical skill or is conditioned by tradition to acquire it; and obviously this is more common in areas where the industry is represented elready. However desirable further dispersal may be in local, or even nationel, terms, the obstacles are obvious, and not all the ereas anxious to attract industry on the small scale required ere likely to be successful in the foreseeable future.

Amenity

386. In a period when labour is likely to be scarce, those areas which can provide an attractive and stimulating environment ere most likely to prosper. So from the narrow economic standpoint there is much to be said for encouraging the development of amenity.

387. The natural amenities of the Region are considerable—the Derbyshire hills, the rivers, Charnwood and the Fenlend ell have their differant claims. It must be an object of regional planning to conserve them. But man-made amenities have at least equal importance; in this sense all our agricultural countryside must be regarded as primerily man-made. Our towns and villages have their separate characters and individuality; planning policy must be directed to preserve what is beautiful and attractive in them and to remove what is ugly.

388. One of the specific problems of current interest reletes to the preservation round tha larger towns of Green Belts which obviously have prevented e certain amount of urban development, and thus may be said to have contributed to preserving the amenities of the countryside. This was not their primery purpose; the main objective was to prevent the coalescence of urban araas. However, it has become apparent that the maintenance of a Green Balt right round a large town, imposing a rigid barrier to its expansion, has disadvantages. In the end this policy can mean the creation of new communities beyond the Green Belt. Apart from spreading the built-up areas into the countryside in whet may often be a rather piecemeal fashion, it may result in settlemants which lack, for some time at least, adequate community facilities. In addition, this form of social and economic development may be more expensive than development on the seme scale which is based on an existing town. In this situation the traditional Green Belt policy may be making little positive contribution to preserving the amenities of the countrysida.

389. Most of the other immediate problems relate in some way to water. There is the technical problem of cleaning up the streams and rivers by adequate control of sewage and industrial pollution. There is the financial problem of the canals—none of the artificial waterways of the East Midlands seems at all likely to be able to pay its way commercially. But fishing is the most popular sport of all, and various forms of boating are increasingly attractive too. Whether the canals are filled or restricted to water-channels, a big bill will have to be faced. It may well be worthwhile to pay something more to preserve a continuous system of waterways, in the full knowledge that it is because they are pleasant, not because they are profitable. Of almost equal importance is the question of the gravel-pits; some of the older ones, where nature has been left to obliterate the scars unaided, are now of considerable interest to naturalists; some of the newer ones could, with adequate backing, be developed for aquatic sports, and prove valuable social and recreational centres for the towns nearby. The authorities concerned are very interested; the limitations, naturally enough, are financial.

390. There is always a demand for land for purposes of recreation. Its use for such purposes may sometimes even on a commercial basis be more profitable than any alternative use, but the community as a whole has to decide on the provision of other facilities than these.

Land Use

391. This chapter has aimed at examining some of the problems of particular types of area, and it will be seen that very often the question to be decided is the best use of that limited commodity—land. In the towns the problem is to distribute it between housing and industry, pedestrian and traffic areas, car-parks and shops, open spaces and allotments; in the country it is to decide between agricultural use and industrial development, between amenity and power; and everywhere the question is to select the best place for development at a time when rising population is matched by rising demands for space by resident and manufacturer alike.

392. The pattern of land use in the Region has been determined to a considerable extent by the great natural resources of minerals which lie beneath the surface. The larger towns and industrial areas are situated mainly in or close to the coalfields of Nottinghamshire, Derbyshire and Leicestershire and, in the case of the New Town at Corby, on the ironstone field which also extends from Northamptonshire into Rutland, Kesteven and Lindsey.

393. The expansion of industry in recent years in these areas, combined with the increase in population, has led to heavy demands on land for industry and housing and has resulted in a continued and substantial loss of agricultural land for development. This loss must continue and indeed is likely to increase, apart from any demands that may result from the accommodation of overspill populations from other regions if such a course is decided upon. Improved farming techniques and increased agricultural productivity have more than made good the production from the lost acres; and they will have to do as well or better in the future if the calls which the National Plan makes on agriculture are to be met while land passes into urban uses at an ever increasing rate. It is not, however, enough to rely on modern techniques to make the most of every acre. Land is not a homogeneous commodity, and the best farming and the most expensive equipment can only get the best results if they are applied to the best land. The Region's agriculture will be fully effective, and will give the fullest return on the capital and labour that is invested in it, in so far as urban development is directed towards the poorer land. Full account should be taken of the value of land for agricultural use in deciding where to locate further development. This means, too, that agricultural land which has been used for mineral extraction must be carefully restored wherever this is reasonably practicable, instead of being allowed to go derelict or to settle down at an unnecessarily low level of productivity for lack of proper precautions before, during and after the extraction; and development should not be sited where it will cause unnecessary damage to neighbouring farmland.

394. The detailed control of land use is a matter not for regional planning but for local planning authorities. It is, however, important that the purpose and the scope of local planning should be understood and taken into account in any economic planning by the Region and the nation.

10 Future Development

The Conditions of Development

395. Any long term planning for the Region must take as its starting point the industrial basis as it exists and the outstanding effect of man-power shortages which have prevailed for many years virtually everywhere in the Region. The chief characteristics of the present industrial structure, as we have seen, are its diversity and the presence within it of a significant element of the fast-growing, high productivity industries, largely centred around the engineering group. Nationally, the engineering industry is a key industry in ensuring the future growth of our economy, both in respect of the expanding investment in plant and equipment needed to provide the tools for higher productivity throughout industry and in respect of the crucial contribution it should be able to make to exports. One can with reasonable certainty foresee that engineering will be a growth industry for many years and that with its good representation in our Region we have here a firm base for industrial prosperity for a long time to come. Certain other 'growth' industries are not so well represented. This is true of some divisions of the chemical industry, of paper manufacture, of atomic energy end of the industries based on petroleum. Many of these industries have special locating factors, but it is important that evolution of newer technologies within the Region shall not be inhibited by the very prosperity of existing industry. It is rather more difficult to assess the long-term future for our consumer industries such as hosiery, knitwear and footwear. Industrial opinion is that output and productivity will continue to rise in the near future, and that, while in some sectors the labour force will continue to expand, in others there will be some decline. These industries are potentially sensitive to competition from less developed countries with their lower labour costs. However, they have demonstrated in the past their virility and their enterprise in surviving in highly competitive circumstances, and there is no reason to foresee any drastic change in their position. As a tentative estimate for the longer term it would seem possible that output and productivity will continue to grow but that labour requirements will, on balance, diminish.

396. Coal mining and agriculture are likely to lose some labour, although in common with developments in all advanced economies the services sector will continue to gain man-power. We have seen in Chapter 2 that over the next four or five years the working population in the Region will not increase significantly and will form a smaller part of the total population than at present. This means a continuing heavy demand for labour and one which is likely to persist into the 1970s and possibly the 1980s.

397. Beyond this, speculation is more hazardous, partly because technological innovations not foreseeable at the present time might make a significant impact, but also because by this time increasing population will be reinforcing the Region's man-power significantly. This could, of course, have the effect of easing the labour shortage; on the other hand demands for all types of production and service activities can be expected to increase with the population, and this could leave the Region's man-power still in short supply. There is in fact a balance of probabilities in favour of the latter view.

398. The shortage of skilled craftsmen in the Region is much more acute than that of labour in general; the demand has expanded to the point when few firms can recruit as many skilled men as they lose. The same remarks apply to the junior supervisory levels. More and more, industry is dependent on itself to bring forward and develop the people who are already employees, rather than on hoping to recruit people who already have the skills it needs.

Industrial training and technical education will have to deal with the problems arising from the redeployment of people from industries losing labour and the demand from the engineering and service industries. Increasing productivity will be vital and will call for the joint efforts of employers and trade unions. There is scope, too, for developing the co-operation and interchange of ideas in the vitally important field of applying technological advances to production. The contribution of such bodies as the National Engineering Laboratory, universities and technical colleges and also the various industrial research and development establishments (such as those of the hosiery and allied trades, production engineering, lace, and the shoe and allied trades—to mention four which are situated in the Region) must be used to the full.

399. Apart from, for example, extractive industries, industry is now less dependent on the physical characteristics of an area than it was in the past. Of greater importance are: (i) availability of labour; (ii) proximity to the main body of consumers (whether industrial or final consumers); (iii) proximity to raw materials, semi-manufacturers or sub-contractors, and (iv) reluctance to move from established areas. The second and third of these factors obviously affect transport costs, and their importance depends on how big an element of final cost these form; while the third is particularly important for complex engineering industries, electronics, and aircraft, where proximity enables stocks of bought-in components to be kept low and reduces the danger of interruption of supplies.

400. Almost any firm which is proposing to expand, or needs further space merely in order to reorganise itself and put in modern machinery, is likely to prefer to do so on its present site. If planning authorities and the Board of Trade will not allow it to do this, or if indeed the site itself is inadequate for such a purpose, then the firm's preference is likely to be for a short distance move.

401. Location of industry policy has been outlined in Chapter 6. The East Midlands, as one of the prosperous regions of the Midlands and the South, experiences the bite of this policy but there is no question of a ban on industrial development certificates, and a considerable amount of local expansion is in fact permitted. Clearly the Board of Trade is concerned to operate the control without detriment to industrial efficiency, and even in congested areas approval is likely to be forthcoming for efficiency rehousing schemes involving short distance moves within the same area or to a nearby place which is also congested provided, of course, there is no development area prospect and little, if any, additional employment is likely to be involved. Occasionally a difficulty can arise if the fate of the building to be vacated is unknown. If it were sold to another industrialist and labour continued to be employed there, the Board of Trade's purpose to exercise restraint could be frustrated. Inevitably the Board has to take the possibility into account in determining a case of this kind.

402. A policy associated with that on distribution of industry must be mentioned—the control of office development. This now operates throughout the South East and the two Midland regions. Many centres in the East Midlands have the requirements of amenity and location that could be expected to attract office development, although the competition for London overspill projects from the southern counties is strong. Moreover, it is not yet clear what the scope for steering office employment will be. Even so, some of the needs for diversifying employment, particularly for females and for school leavers, in certain identifiable places in the Region, e.g. Corby and some of the county towns and those on the Nottinghamshire–Derbyshire coalfield, could best be met at least in part by office employment. But office developments could not be considered in isolation from the general labour situation in the area concerned, and the needs of development areas must remain an over-riding consideration.

403. The issue of an industrial development certificate does not prejudice the question of planning permission. Nearly all development requires the consent of the appropriate local planning authority or, on appeal, the Minister of Housing and Local Government. Applications for planning permission are dealt with as they arise, but each is assessed in relation to a development plan which records the intentions of the authority on land use. Individual development is thus controlled to ensure conformity with long-term plans, but these themselves may be insufficient to meet needs unforeseen when the plans were prepared, while those of contiguous planning authorities may not reflect the most suitable physical and economic policies in the wider context of regions.

404. Development plans are reviewed at intervals and land is allocated to meet expected demands, which in the main include the needs of existing or proposed urban areas. Towns have no optimum size, but the problems of an existing town tend to increase with its overall growth. It would therefore be prudent to consider whether some of the development which will be required to meet the needs of the increased population expected should be

steered away from congested areas. A negative policy, designed to prevent development of land in a belt around the large towns, may aggravate problems which it would be difficult and expensive to solve. Policies intended to prevent peripheral growth might, because of pressures causing reversal of policy, merely delay it; future development needs to be thought of in positive terms.

405. No two towns are altogether alike, but the problems of many are similar, and much thought nationally and internationally has been devoted to the search for solutions. Several different treatments have been suggested for areas which have acute expansion problems; these include star-shaped development, a circular band of large unbroken urban areas, and variations on the development of an urban complex over a relatively wide area. Such ideas have been put forward to deal with problems which already exist in heavily built-up areas, but none of them is necessarily appropriate to the East Midlands. The major towns of the Region are not parts of a developed conurbation, but several of them are surrounded by smaller towns which have grown independently, forming centres and road patterns which may contribute not only to the problems of the future but also to their solution.

406. Any plans envisaged for the Region are likely to be greatly influenced by our knowledge of the problems experienced in conurbations elsewhere. The creation of a new Birmingham–Black Country or a Manchester–Salford in the East Midlands is to be avoided, but the preventive measures must not reduce the potential of the Region. It must be remembered that cities have been a vital factor in the development of human civilisation, and that it is only when there are large numbers of people within reasonable distance of each other that the advantages of urban life can be fully developed. We must not allow the fear of congestion caused by modern traffic to lead to such population dispersal that the urban function is destroyed. So far as is possible the larger cities must be re-structured to play their full part in improving the environment, the efficiency, and the cultural life of their respective sub-regions. Development undertaken in the short-term to meet local needs will need to be designed to fit long-term regional policies.

407. The Region is fortunate in not yet having all the difficulties associated with conurbations but, because the problem is to prevent such difficulties arising, the task is rather different from that faced elsewhere. So far as can be foreseen the municipal housing needs of the towns of the Region are likely to be on a limited scale and it is probable that a high proportion of all new housing development in the Region will, because the people wish it to be so, be dependent on private rather than public schemes. But, although it is possible to prevent development which does not accord with an overall plan, private developers cannot be forced to undertake development against their wishes or judgment. The demands can only be met as they arise with the year to year growth in population. A single operation of transfer to new or expanded towns, attractive because both a job and a house are on offer simultaneously, would not meet the East Midlands problem, however appropriate elsewhere. Any planning policy for the Region must reconcile what is desirable with what is practicable, and take into account these problems of private development and protracted timing.

408. Whatever form future expansion may take, certain types of area are likely to be avoided; hills or risk of flood may make them unsuitable; some land has a high value for agricultural purposes, and some lies over valuable mineral deposits whose extraction should be carefully considered before they are sterilised by surface development. Such limitations are not absolute, but they must continue to be kept prudently in mind. Even allowing for all of them it is clear that there is no shortage of land suitable for housing or industrial development in the Region. However, the needs, potential and possibilities are not constant over the whole area and the following sections therefore deal with some of the characteristics of each sub-region.

Northamptonshire Sub-Region

409. Northamptonshire is one of the smaller sub-regions, containing only about one-eighth of the population of the East Midlands. In addition to the important industrial area of Northampton, it contains the expanding steel town of Corby, the footwear centres of Wellingborough and Kettering and the more rural areas (Daventry and Towcester) in the west of the county.

410. In spite of the importance of agriculture in the rural areas, only 2·4% of the employees in the sub-region are directly employed in it whilst only a negligible proportion (1·0%) are engaged in mining and quarrying, including that vital to the local steel industry. Over half the employees in the sub-region are engaged in manufacturing industries, nearly two-fifths of them being in footwear. (About two-thirds of the allied industry—leather—is in this sub-region.) The next most important industry is engineering and electrical goods. The main concentration, consisting of a wide range of activities, is in Northampton.

411. Metal manufacture is the third of the sub-region's important industries. Nearly 90%

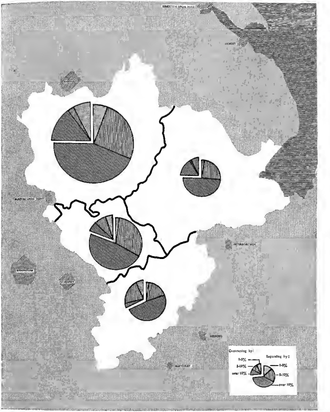


Fig. 20 Employment in Expanding and Contracting industries, 1959–63
The areas of the circles represent the total number of employees in each sub-region in 1963 and the sectors show the proportion in expanding and contracting industries in the sub-regions, based on growth rates 1959–63. See *Appendices 25 and 26.*

of it is to be found at Corby. Although growth in employment between 1959 and 1963 was not as rapid as in some earlier periods, it still amounted to 15% in the sub-region. (See Figure 20.) This was well above the regional and nearly five times the national average.

412. All manufacturing industries taken together showed a rise of nearly 5%, only about two-thirds the regional average, but contraction in employment in footwear explains the difference. The increase in construction between 1959 and 1963 was about twice the regional increase. The service industries expanded by nearly 12%, the increase in distribution being especially marked. Altogether, the sub-region's employment expanded by 8% between 1959 and 1963, the highest of any sub-region.

413. This sub-region is, so far as the East

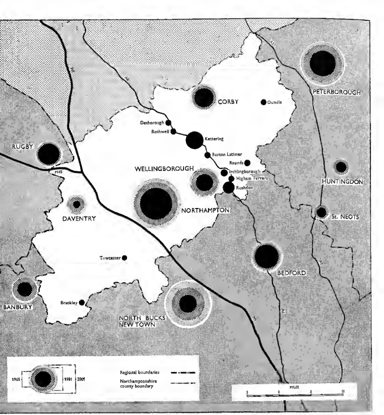


Fig. 21 Planned Expansions
The diagram illustrates towns in Northamptonshire at present under consideration for planned expansion in relation to other towns in Northamptonshire and to similar proposals immediately outside the East Midlands. Final decisions have not been taken, but the areas of circles indicate the magnitude of current proposals in relation to existing populations. The growth shown for the end of the century is tentative. See *Chapter 2, paragraph 38.*

Midlands is concerned, exceptional in that there has been more industrial movement into it than out of it. Most of this has been in association with the planned movement of population into Corby, Daventry and Wellingborough. But planned movement was, except at Corby, in a very early stage in 1965, and further movement of industry into the expanding areas is both necessary and expected. Past experience in these circumstances gives little guide to the future.

414. A very considerable expansion of population is planned for (see Figure 21), and in places is already arriving in, this sub-region. Wellingborough's expansion is agreed with the Greater London Council, Daventry's with Birmingham, and the expansion of Northampton itself is likely to be larger than either, and arises from national planning to relieve congestion in the South East. In these operations it is important to keep housing development in step with the demand for labour arising from new and

existing industry. This in practice is a difficult thing to do. Sometimes the house building programme gets in advance of the creation of jobs, and sometimes it gets behind. But it is important that the influx of the new industry does not get too far ahead of the population movement, because all these reception places are in areas of labour shortage and there is always the danger of creating a local labour situation of serious difficulty.

415. There may be anticipated a real problem on the industrial side. Each of the expanding towns in Northamptonshire will be in competition not only with the others but with many further towns in the South East expanding at the same period. In particular there will be counter-attractions for industry in the extensive expansion at Bletchley and Peterborough and the less extensive expansion at Bedford, Huntingdon and St. Neots, all only a few miles outside the Region. The problem will not only be to find enough industry prepared to move to one place or the other, but on the one hand to make sure the timing is right to match population increase, and on the other to aim at a mixture of industry of different types which is suitable and adequate in each place. Moves depend however on the voluntary choice of individuals and the difficulties of synchronising movements and of ensuring a reasonable balance of employment are obvious.

416. The problems of the New Town at Corby need special mention. It was built on the iron-ore field deliberately to provide the man-power to exploit this natural asset in the national interest. In consequence its economy is dominated by one industry, and indeed one firm, and neither the people nor the industry regard this as ideal. Over half the persons, and nearly two-thirds of the men, employed in the town are engaged in metal manufacture. Nonetheless, some diversification of employment has taken place with the arrival of some female employing industry and an accompanying increase in construction and other services. As a result the Corby area has expanded in terms of employment much faster than any other district in the sub-region. As seen in Chapter 2, Corby is expected to continue to grow, and the need for further diversification of industry as an accompaniment of that growth is accepted. The difficulties arise in getting new firms and in timing the arrival of new firms or local expansion to match developing need. However successfully these difficulties are overcome, it seems inevitable that the steel-works will remain the dominant feature, and any estimate of the future demand for labour by those works depends on opinions about technological changes which will increase productivity and the economics of steel production. Forecasting on this basis is hazardous, but it seems improbable that employment in the steel industry at Corby will decline appreciably, and by no means certain that it will not go on rising.

417. Many of the other towns of the area were traditionally based on iron-works, the footwear industry, or both; the closure of blast-furnaces in recent years has already been mentioned, and it will be recalled, too, that the footwear industry has been experiencing a process of concentration, which tends inevitably to favour the big centres against the small. Several of Northamptonshire's towns have in consequence grown at a much slower pace than communities elsewhere, and there has been evidence of a tendency for more and more of their population to travel to work—often to Northampton or Corby.

418. The problems to be expected from the development of Northamptonshire are many; hitherto, that of water supply has been considered to be the most crucial but it is now hoped that the plans, which the Mid-Northamptonshire Water Board has in mind and which are dealt with in the report of the Water Resources Board Technical Committee on the South East, will ensure adequate supplies for this area to about the end of the century. With the location of M1 in the western part of the sub-region and the trunk road A1 immediately to the east, north–south road communications are fully adequate. These, supplemented by major railway trunk routes from the south passing through or near Northampton to the north and north-west, are making an important contribution to the development of the area. There is, however, need to give consideration to the improvement of east–west road communications and, in particular, to the provision of a first-class road to the East Anglian ports. All these factors will call for a general regional co-operation with the bodies charged with the primary responsibilities.

419. It remains to be asked what the rest of the century will bring for the sub-region. The most probable answer is that the existing plans as they mature will not need to be followed by others within a reasonably foreseeable future. The population is expected to rise from 422,000 in 1965 to 623,000 in 1981, and to more than three-quarters of a million as a minimum by the end of the century. (See Figure 22.) The growth of the towns which have been identified for planned expansion will be accompanied by growth in the other communities, due both to natural increase and to the private migration which the major developments attract on a more dispersed basis. This expansion seems likely to be as much as any area could absorb within a limited time; the demands it will make on the

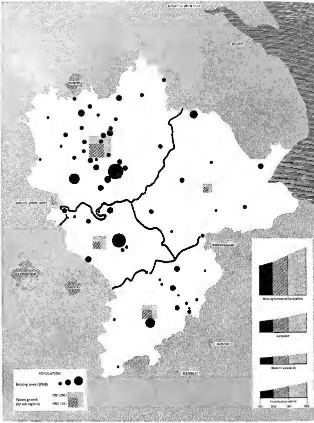


Fig. 22 Existing Urban Population Distribution: Possible Future Sub-Regional Growth
The populations of existing urban areas, 1965, are shown by proportional circles. The forecasts take account of estimates of current planned movements of population to Northamptonshire (Daventry, Corby, Northampton and Wellingborough) and Sheffield 'overspill' to Chesterfield RD. See *Appendix 9.*

natural and social resources of the sub-region will be very considerable. Moreover it would seem desirable to maintain a substantial belt of open country to the north of the band of development now in question; this band is envisaged as only the outer sector of a ring of development around the South East and for reasons both of amenity and traffic control it would be unwise to permit it to spread north as well.

Eastern Lowlands Sub-Region

420. The Eastern Lowlands is the smallest of the sub-regions in terms of population, and the figures given in Chapter 2 suggest that it is likely to remain so. It contains no really large industrial centre and apart from several pockets of engineering and food processing there is

little manufacturing industry outside Lincoln itself.

421. The main industry is agriculture, which in 1963 employed nearly one-sixth of all employees. Their numbers are declining though production is not. Manufacturing industry accounts for only 28% of the total number of employees—by far the lowest proportion in any of the sub-regions. Easily the largest of the manufacturing industries is engineering, but fruit and vegetable canning are also important, and all these industries have been growing. Sugar beet processing is also a substantial industry.

422. Recent experience of industrial moves either into or out of the sub-region suggests that they have been minimal and represent no particular trend.

423. The sub-region is largely agricultural and includes some of the best agricultural land in the country. In general both the national interest and local opinion suggest that the agricultural nature of the area should be preserved. This does not mean industries serving or being served by agriculture should be discouraged; a healthy balance, particularly in the small towns, is very desirable, but over the sub-region as a whole considerable increases in population or industry would seem better discouraged.

424. There are some clear exceptions to this generalisation. The first and most obvious relates to Lincoln itself, which has developed into a strong industrial community; its growth in terms both of population and industrial employment has since the second world war been proportionately greater than many places with more obvious advantages. It is rather off the line of the A1 and the London–Edinburgh railway but the A15 and A46 each carry between one-third and a half as much traffic as the A1 and the railway running north–south through Lincoln carries more freight than the London–Edinburgh line. Even its present economic strength suggests that Lincoln will continue to thrive, and clearly any major development along the south bank of the Humber—as is projected—will find Lincoln a base and at least to some extent a communications centre, with the rail line from Grimsby to Lincoln and onwards selected for development as a major trunk route. The ensuing problems are likely to be considerable; because of the way it grew Lincoln has very heavy employment near the city centre; it has problems with road congestion, at present bedevilled by railway crossings, and very naturally local opinion is very much concerned to preserve so far as possible the identity of an historic city. Action on ring roads, and on roads specially intended to serve industrial areas, and some town centre redevelopment are all indeed envisaged already. It may well be, however, that Lincoln's importance will be greater than has yet been appreciated and its already difficult problems mean that its wider development will involve close liaison between the three planning authorities and two Economic Planning Regions affected. It must be remembered when development is contemplated that much of the surrounding agricultural land is of exceptionally high quality.

425. A second area where some development may be regarded as desirable is Boston, the only sea-port in the Region. Although it can only take ships of limited draught and beam, the current programme of modernisation will help it to take its share in what is likely to be an increasing amount of European trade, though the scope of what it handles tends to be limited to the needs of the hinterland. It must also be recognised that the size of the town, its distance from industrial areas and the bias towards port-based industry have together produced some limitations on the variety of opportunity open to the rising generation. This position may well improve if at any date the project for a Wash Barrage comes to fruition but, in any event, the agricultural value of the Fenland must be taken into account.

426. The third area of this sub-region needing special consideration is the line of the major north–south road A1 and the main east coast railway from London to Edinburgh. Population expansion from the south-east is already reaching Northamptonshire and is envisaged just over the Region's boundary at Peterborough. Close by, just inside the boundary, is Stamford; there is already some industrial development at Stamford, but the town remains primarily a very attractive market town. Its most valuable function would seem to be complementary to, rather than competitive with, Peterborough. The neighbouring villages in Lincolnshire and Rutland seem likely to develop as a combination of centres for the countryside and homes for people commuting into the growing industrial area to the south. As in the case of Northamptonshire, it would seem better to leave a belt of country to the north with a minimum of development. But beyond this belt to the north again lie first Grantham and then Newark. The latter, though in Nottinghamshire, shares with Grantham the advantage of lying on excellent north–south road and rail communications and in addition is on similar routes from Nottingham, Derby and Leicester to Lincoln. Its prospects are perhaps best considered alongside those of Grantham. Although neither is at present included among the towns to be rapidly expanded to relieve the

south-east, each has good links by road and rail. Given the need for further reception areas for industry and population from congested areas, both towns would warrant further study.

The Leicester Sub-Region

427. The Leicester sub-region, the second largest of the four, includes just under a quarter of the Region's population, and may well contain nearly one million people by the end of the century.

428. Although agriculture is widespread and important, the sub-region's strength lies in its manufacturing industries which employ well over half the total employees. Almost three-quarters of these are concentrated in three groups: engineering, electrical and other metal goods; textiles; and clothing and footwear. The engineering group is the largest and fastest growing and between 1959 and 1963 its labour force increased by over 25%. The extractive industries employ between them only 6½% of the sub-region's employees, but coal mining is important and provides employment for a high proportion of the male workers in the Desford–Measham–Coalville triangle.

429. The Leicester sub-region is primarily concerned with the City of Leicester itself, the industrial towns to the north and west of it and the countryside which unites them. The unemployment rate in the Leicester area is, and for several decades has been, very low, whilst its industry is vigorous and varied. In view of the great shortage of labour, the Board of Trade has needed to exercise a tight restraint on industrial expansion there.

430. The problems arising from the existing size of Leicester make it unlikely that the area will be seriously considered as a reception area for planned overspill from elsewhere. Conversely, conditions do not warrant exporting population from the Leicester area under planned overspill arrangements. An appreciable increase in population can be accommodated within the city boundaries whilst the surrounding urbanised areas can probably take care of expected increases in population for the rest of the century. The real obstacle is congestion. The Leicester Traffic Plan was mentioned in Chapter 9, but there is also need to remove from the centre of the city many of the present traffic generators, and this in practice means factories. What is true today will become increasingly true as population increases and generates more labour and more demand, and higher proportions get motor-cars. It is important not only that new areas shall be set aside to which existing or expanding businesses can go, but that they shall be able to plan ahead with assurance. This is undoubtedly difficult—the needs of development areas must be remembered—but the problem is real. The remaining problems are, therefore, of a sub-regional nature which can be treated in isolation without repercussions on other areas, and we welcome the setting-up of a study under the auspices of Leicester City and Leicester County planning authorities to prepare proposals for the major land uses in the sub-region.

431. In their sub-regional study it will be necessary for the local planning authorities to take account of regional and economic requirements in connection with the location of future industry. At this stage, no specific requirements can be stated, but sites near the access points to the M1 will find favour with industrialists. The need of some industries for both road and air transport should be recognised and provision made for the siting of such industries within easy access to the East Midlands Airport. A thrust from Leicester towards Coalville might be converging on a thrust from the West Midlands towards Burton-on-Trent and both would draw strength from and add strength to a line of industrial development from the Severn Estuary through Birmingham, Derby and Nottinghamshire to the West Riding and Humberside. A strong and well integrated industrial complex in West Leicestershire would be a valuable component in such a national pattern; it is unlikely to be fully realised before the end of the century, but in the meantime we would suggest that part, at least, of Leicester's industrial development should be steered out of the city in a north-westerly direction. Further, some advanced technological type of industry could benefit from being in the same area as the Loughborough University of Technology. Contact between those in industry and those engaged on research with probable benefit to the attitudes and ideas of both would be facilitated. Industry would be encouraged to seek assistance on problems suitable for research by the University whilst the University would have within easy reach real situations for study.

432. Something should also be said of the rest of the county which lies within the Leicester sub-region. This is primarily agricultural and much of the land is of good quality, especially in the Welland Valley district towards the south of the sub-region. It would seem reasonable and desirable to retain this as countryside between the growing areas of Northampton to the south and Leicester to the north; but in the south-west area of Leicestershire some commuting is already noticeable to Coventry, Rugby and elsewhere in the West Midlands, as well as to Leicester. With proper

safeguards this commuter element could be a source of strength to Leicestershire.

Nottinghamshire–Derbyshire Sub-Region

433. The Nottinghamshire–Derbyshire sub-region, which contains more than half the population and employment of the East Midlands, presents many of the more difficult problems and, equally, much of the potentiality of the Region.

434. In the industrial structure of the sub-region, the major industry is coal mining, with highly productive collieries to the east and declining collieries to the west. The mining and quarrying group of industries accounts for 13·2% of the sub-region's employment.

435. In manufacturing industry there is a large concentration in the engineering and electrical sector, nearly 40% of the Region's total. In the vehicle group of industries the proportion of workers employed is significantly above that in the Region as a whole, representing about 75% of the regional total. Within the sub-region, the largest concentration is in the Derby district, where aero-engines, railway locomotives and railway carriages predominate. Metal manufacture accounts for 3·5% of the sub-region's employees with nearly 60% of the Region's total in this industry concentrated mainly in the Nottingham, Derby and Chesterfield districts.

436. Although smaller than this combined metal and engineering group of industries, the largest single manufacturing industry is textiles. It represents 9·3% of the sub-region's total employment and accounts for slightly over half the regional total of employees in this industry. The greater part of this employment is in hosiery and knitwear, together with the allied finishing trades. Nearly 75% of the Region's chemical industry is in this sub-region, mainly in the Nottingham district, although it is also well represented in the Chesterfield and Derby districts. The large concentration of the tobacco industry in the Nottingham district makes the representation of the food, drink and tobacco group of industries in the sub-region about the regional average.

437. The sub-region can be divided into three main zones and, although the boundaries between them are not clear cut, it may help to consider them separately. The first is the main industrial zone and it will be necessary to return to consider it in more detail. But it is flanked by two other zones.

438. The west flank is the upland area of Derbyshire including the National Park; its problems have been outlined in Chapter 9. There seems little likelihood of any major development in this area, because it is unsuitable for industry or large populations. But increases in population elsewhere may produce a limited demand for housing by people who like the hills and are willing to travel long distances to work.

439. The east flank is the broad belt of eastern and southern Nottinghamshire and south Derbyshire which is at present largely agricultural. It contains valuable deposits of gravel and gypsum; and power stations have been developed along the Trent Valley. It shades off into the newer part of the coalfield, and many of the villages are growing to provide commuter housing serving the bigger centres. One problem to be resolved is how far this population increase should spread and whether it will be supplemented by industrial expansion actually in the area. Such a development might be merely a spread of Nottingham and its urban life further and further into the countryside, or it might take the form of growth points somewhere in the area. But in either case the source of the development will lie outside this area itself and the need for it will spring from decisions about development in the industrial zone.

440. Any development in the eastern and southern parts of the sub-region must take into account the need not to sterilise mineral deposits. It must allow, too, for the high agricultural value of the land; it will be recalled that agricultural production in Nottinghamshire is substantial.

441. The more complex industrial zone extends slightly beyond the area bounded by Nottingham, Mansfield, Worksop, Chesterfield and Derby—a belt not more than about twenty miles wide anywhere and only about thirty miles long. The local authority areas within it, together with their existing populations, are listed in Appendix 10 and the area is illustrated by Figure 23.

442. This zone presents a complicated pattern of towns and industrial villages of various sizes linked in some places by bands of mixed development. It contains the county towns of Nottingham and Derby and runs up to the edge of Sheffield. These cities largely dominate the districts near them but there are also historic and populous towns, such as Mansfield and Chesterfield, well able to stand alone.

443. Nottingham and Derby are 16 miles apart; both are prosperous but their industrial structures are quite different. The proportion of workers in manufacturing industry is smaller in Nottingham than in Derby (46% compared with 51·9%). In Nottingham the numbers are fairly evenly spread over a wide range of industries, chiefly of the lighter type producing consumer goods, but in Derby the emphasis is on capital

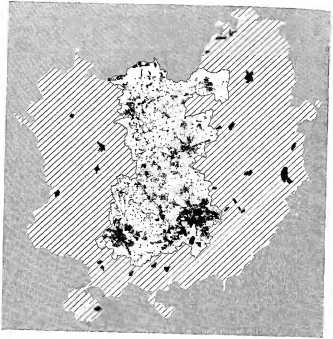


Fig. 23 Nottinghamshire–Derbyshire Sub-Region: Industrial Zone
Built-up areas within the sub-region are shown in black. The boundary of the densely populated and intensely urbanised area of the Industrial Zone (not shaded) follows local authority and parish boundaries but is adopted for no other purpose than the use of statistics. The constituent local authorities of the zone and their populations are shown in *Appendix 10.*

goods and nearly half the manufacturing employees are in the vehicle group (22·7%) comprising the aircraft, locomotives and wagon sectors. The major industries in Nottingham are textiles (12·9%: mainly hosiery and knitwear and finishing), engineering (6·7%), food, drink and tobacco (6·4%), vehicles (5·4%), clothing (5·3%), paper, printing and publishing (3·3%) and chemicals (2·4%). In Derby, apart from vehicles, only textiles (8·1%), engineering (7·2%) and metal manufacture (6·5%) are represented significantly. Both towns have great economic potential; unemployment is and has long been low, the variety of industry great—greater in Nottingham than in Derby—and, when the districts immediately around them are included in the calculations, population has continued to increase in both as a result of net migration as well as of natural increase.

444. The position in the remainder of this zone of the sub-region is very different. An immediate problem exists in the Nottinghamshire–Derbyshire coalfield. There is a shortage of labour in the eastern part of this area. The mining industry is faced with the problem of offering effective inducements for workers to come from elsewhere; the local planning and housing authorities with that of providing housing in the right places and in an environment which is attractive and socially beneficial; the Region at large with the problem of providing other employment for the wives and families within reasonable distance and with reasonable variety. On the western edge of the coalfield the

problem is reversed; the pits are closing as reserves become exhausted. Fortunately, the area is fairly small and within reach of alternative employment for men who do not want to accept mining work at a greater distance; the older men and the disabled will continue to need special and sympathetic consideration, but the dangers of a large increase in local unemployment figures seem small. The past has left strings of mining villages, rather drably developing into towns; mining villages are still being created or augmented on the eastern side and, although the physical development—within its limits—is generally satisfactory, some of these communities have social and economic disadvantages which flow from the lack of diversity of employment.

445. Between 1959 and 1963 the Alfreton–Heanor, Chesterfield and Mansfield–Worksop districts suffered a considerable reduction in the number of workers employed in mining and quarrying. The Mansfield–Worksop district attracted a considerable amount of new industry employing both males and females and this led to an increase in manufacturing employment of 18%. Chesterfield also benefited from new manufacturing industry and an increase in services, but because of the loss in coal mining the net effect on total growth was very small. The Alfreton–Heanor district also had a marked growth in manufacturing industry —about 18%—but little expansion in services, and a drop in construction and coal mining resulted in it being the only district in the Region to experience an overall decline in employment. Although alternative employment has kept, and appears likely to keep, the older mining towns as viable economic units, many of them are in need of physical rehabilitation. If they are to prosper and expand much will have to be done to provide better housing and improved environment in many of them.

446. Unlike some of the older mining towns in other regions, most of those in this sub-region are in an area of economic prosperity and low unemployment rates. There is a belt of almost continuous industrial development from Long Eaton along the valley of the Erewash and over the watershed to the Chesterfield and ultimately the Sheffield areas. Iron works and the metal industries have continued to prosper, despite the original ore-fields having long ceased to be worked. The hosiery industry is also traditional in the area, and there are other industrial units concentrated in the large towns and scattered in the smaller ones. The whole area has not only a long industrial tradition and an industrial strength which has enabled it to survive several changes in economic circumstances, but also it is astride one of the main communication cross-roads of the country. The London–Yorkshire motorway will pass through it, the London–Yorkshire railway trunk route already does; similarly it is on the routes from South Wales, Severnside and Birmingham to Humberside and the north-east coast and east Scotland. Whatever decisions are taken nationally to accommodate increasing populations later in the century, their implementation can hardly avoid an increase of the traffic through the area with a related enhancement of its industrial value.

447. Within this industrial zone, though often enclosed by ribbon development, are many stretches of open country. The population density over the whole area is considerably less than casual journeys by road or rail would suggest. The present map of the zone (see page 94) in terms of population density and distribution shows a remarkable similarity to a map of the Birmingham–Black Country area about the year 1900, but its future can be saved from the same difficulties as the West Midlands conurbation by positive planning policies.

448. It is anticipated that the largest increases will be in areas at present most heavily populated. It does not follow, however, that the necessary houses, employment, services or environment could or should be provided within such areas or contiguous to them. Development plans for the towns of the area, Nottingham, Derby, Chesterfield, Mansfield and all the others, have been drawn up rather in isolation from each other, but the problems are interlinked. Even those plans, as was noted in Chapter 9, presuppose consequences which, whether in limiting the use of motor-cars or in suggesting other redevelopment, will not be palatable to everyone. The cost of measures to contain the increase of congestion, and the limited success they are likely to have, must pose the question as to how far or how fast the further growth of the bigger towns should be encouraged. The problem is that of determining the best use of limited resources to provide the maximum return both in economic health and in amenity for the whole area. It would be an advantage if plans, primarily based on the population projections shown in Appendix 9, were flexible enough to allow reserve provision for additional growth should it be necessary to accommodate industry and population from other regions in consequence of mounting population pressures later in the century.

449. Unless there are such proposals for the reception of population and industry as a planned move from outside the Region, the effective demands for houses and employment will be satisfied year by year as they arise. It is unlikely that there will be a build-up of unsatisfied demand which could be dealt with by a planned move such as the building of a New

Town. There will therefore be continuing pressure for homes and employment to be provided in the area of demand. But this is the way conurbations grow.

450. The industrial zone can be regarded as an incipient conurbation but there is as yet time and opportunity to prevent it becoming too built-up. In order to take advantage of the opportunities it offers, it will be necessary to prevent the congestion of traffic and buildings. One possible way in which this could be done is by steering some of the additional industry and population growth from the heavily built-up areas to growth points elsewhere in the zone. By encouraging dispersal of growth it might be possible to build up towns with their own identities but forming part of a larger whole and complementary to each other. This suggestion, however, involves many considerations, such as the possibility of providing or improving inter-urban roads; the adequacy of water supplies; the redevelopment of town centres, and the provision of social facilities and satisfactory environment.

451. The zone requires developing as one unit but four planning authorities are involved; it contains an incipient conurbation; traffic congestion in the large towns is growing faster than the remedial measures can be applied; it has a population which is expected to increase from about 1½ million to nearly 2 million by the end of the century; it has a declining coal-mining area to the west with problems of dereliction and subsidence; the pattern of settlement on the eastern side of the coalfield needs reviewing. On the other hand the area is also one of great potential: it has a large, complex and diverse industrial structure with an associated and often highly skilled labour force. Further, its good system of communications, its position in relation to other major developments and the motorway now under construction will enhance its attractiveness to industrialists.

452. Much research in detail will be required before an overall plan can be prepared. While this plan must be concerned with the position at the end of the century, the problems will emerge progressively in the interval and the basic decisions must be taken early. It is recommended that a special study of this zone should be undertaken straightaway.

The General Outlook

453. The position of the Region may be summarised by saying that a big increase in population from other areas is already planned for Northamptonshire; a large increase in the Nottinghamshire–Derbyshire area will need to be catered for at some time in the future. Some of it will occur spontaneously, some as a result of public policy, but it will all be influenced by and be dependent on the needs and development of industry. The proposals for Northamptonshire's development are in outline already clear, the future of the north of the Region needs public discussion and ultimate decision.

454. In the central area of the Region it seems sufficient, for the present, to concentrate on the problems indigenous to Leicestershire and its relations with the West Midlands. Possible lines of development have been suggested, but looking further ahead one obvious direction of further migration from the south-east would be along A1.

455. The opportunity, the land and the industrial strength, as well as basic communications, are all present in the Region. A major problem for the developments both in the north and south is that of water availability in the right areas and the right quality. Development in the south will be dependant not only on the Nene Valley but also on what is done outside the Region in the Great Ousa area. Development in the north will depend not only on the best use of the Dove and the Derwent but also on the West Midlands cleaning up the Trent and its tributaries. This is a matter of crucial importance.

456. To take the opportunity will demand continued economic strength, and to provide the environment required will call for considerable resources. In this Region, as in others, continued emphasis on industrial research and industrial investment, with the object of marked increases in productivity, will be vital. The active co-operation with industry of the establishments of higher education, and notably the Universities of Nottingham, Leicester and Loughborough, together with the important research organisations set up by particular industries, or groups of industries, will provide the key to the opportunity which is here. It is for the Region and the Region's industries to turn that key.

11 Conclusions and Recommendations

Preliminary Conclusions

457. The earlier chapters provide a basis for suggesting at least tentative answers to the questions raised in paragraph 7. More research is needed in a number of directions, and action to initiate some further enquiries has already been taken; this together with suggestions about the aspects of the Region where further study is required, is described below.

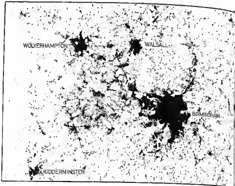
458. The first question was whether the present high levels of employment in this Region could reasonably be expected to persist. The answer—after allowing for any temporary fluctuations—is clearly 'Yes'. The great variety of industry in the Region, the inherent advantages of the Region's position, and its past industrial history all point to the same conclusion. Some industries will reduce their demands for men-power, one or two may even suffer sharp decline in the market for their products, but there are enough buoyant industries with technologies which create new demands for their products, and sufficient industries with increasing need of man-power, to offset any likely reductions. Moreover, although individual towns may complain of an unfortunate reliance upon one particular industry, the industrial areas of the Region are so compact that the effects of a depression in any one industry would be largely cushioned. In most cases the people immediately affected would be able to find employment though this would involve travelling further to work. Even this hardship would be alleviated within a short time by the movement of other industry hungry for labour.

459. The second question related to the long-term prospects for the Region's standard of living. Here the answer is not so easy. The nature of several of the important industries of the Region is such that human effort forms a large ingredient in the manufacturing or extractive process, and there is less prospect in these industries than in others that technological progress will rapidly reduce the numbers of people needed to produce a particular value of product. This may in itself prove to be a limiting factor. It will be noted, however, that the Region contains many industries of a high and advancing productivity, particularly in the engineering sector.

460. The greatest obstacle to the expansion of industry is the shortage of labour, and all the evidence suggests it is likely to persist for many years to come. Broadly speaking, growth of employment has depended more on growth of the Region's own industries than on the introduction of new. Taking the period 1959–63, a study of the Region's industry has been made to determine those groups of industries which had grown in terms of men-power, within the Region, and those which had declined. The degree of change was also noted and the results are shown on the diagram on page 49. Three-quarters of the total labour force is employed in industries which are growing and which, in the absence of dramatic reversals of fortune, will readily absorb any suitable redundant employees from industries which decline.

461. A study of the movements of people between the Standard Regions of England in the year 1960–61, based on the 1961 census, shows that the net increase of 6,400 recorded for the North Midland was merely the balance recorded after 51,100 people had moved out and 57,500 had moved in. The significant fact emerged that the greatest movements had taken place among the prosperous regions of the south and that, despite the high rates of employment in the West Midlands and the South East, this Region was competing successfully with them for the available men-power.

462. The third question related to the unsatisfactory elements in the Region's environment. There is poor housing in the Region but on the basis of a comparison with the country



West Midlands, 1900
Birmingham and part of the Black Country, c. 1900
(population about 1½ million).

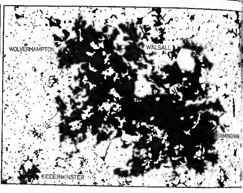


Fig. 24 Built-up Areas: Comparison of West Midlands, c. 1900 and 1960, with East Midlands, 1960

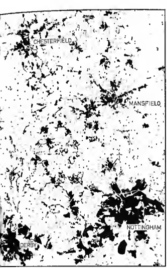
The three diagrams are all to the same scale and each covers an area of just over 530 square miles.

as a whole there is not very much of it and it is rapidly being replaced. The same progress can not unfortunately be found in other aspects of the physical environment. Clearance of areas of dereliction and the brightening of twilight areas has hardly commenced, but it is traffic congestion rather than the inadequacy of buildings which adds this urgency to the problems. In this field we need to maintain, and perhaps re-examine, priorities in order to make the best use of the inevitably limited resources which will be available.

463. Investment in schools and hospitals has been directed to satisfying additional needs rather than to replacing the older buildings. Even the present heavy scale of investment on roads is inadequate to maintain even present standards of traffic flow.

464. The rural environment has its own problems. In the East Midlands access to the countryside is not difficult, but the reconciliation of proper facilities for its enjoyment with the legitimate needs of the rural communities and rural industry must be a matter of continuing concern.

465. There are many deterrents to the improvement of industrial efficiency, and comprehensive recommendations about this important subject are made in the National Plan. It must, however, be noted that, although this Region is well served by main national road routes, there is the handicap of local traffic congestion, and also serious congestion on certain main strategic routes notably to Birmingham and the West Midlands and to Merseyside. The Region has important industrial links with both areas. In addition there is the purely physical factor that modernisation frequently requires extra space, and this is not available on the sites



East Midlands, 1960
Part of Nottinghamshire–Derbyshire industrial zone, 1960 (existing population about 1,400,000; end-century estimated population nearly 2½ million).

West Midlands, 1960
Birmingham conurbation and adjoining area, 1960 (population about 2½ million).

where much of our industry has been located in the past. There are also the social factors—co-ordination between the educational system and industry has had, and is having, much attention, but efforts to improve it must not be relaxed.

466. The fourth question concerned the future. An increasing population will require continuing investment in housing; the scale of this to accommodate the population increase at present expected should not present undue difficulty. The pattern of it, in relation both to industry and services, will be more difficult. A piecemeal accretion to all our existing communities would lead to a sharp deterioration in our environment. Co-operation between the local planning authorities and central government, and the understanding and help of the public, will be needed to work out acceptable policies. This Study has confined itself to suggesting certain possible approaches; the industrial and the environmental aspects will need to be considered together. A really seriously limiting factor may well be water supply—there is plenty of water but, even if it is used economically, to make it available in the right quality and the right places will need considerable further capital investment.

467. Reference has already been made to the close similarity between the land use patterns of the Birmingham area in 1900 and those of the northern part of the East Midlands in 1960; total population and population densities too were of the same order. (See Figure 24.) In the absence of positive measures to prevent it, the East Midlands could be faced in thirty or forty years with the type of problems experienced in the West Midlands today. The situation would develop more quickly here because the population increases, country-wide, will be quicker too.

468. The fifth question was concerned with the Region's ability to take more than its proportionate share of the national increase in population, if this seemed nationally desirable. It will be appreciated that developments already contemplated or in train in Northamptonshire involve this already, and that there is no major obstacle there. It has been suggested that the importance of the belt of country from Nottingham and Derby to Sheffield is likely to increase whatever national decisions are taken, and even without a decision on planned migration effecting that area it is likely to attract both business and people. It must be emphasised that, whatever decisions on national population problems are taken, the East Midlands faces a situation of an unusual kind. There is no big overspill problem internal to the Region to be met by a single operation of transferring people and industry to a new site; instead there is the prospect of a continued increment, year by year, from many different localities. In total numbers this will be equivalent to the scale envisaged in overspill schemes, but the purpose of planning in this situation would seem to be to deal with the population expansion as it emerges, not to wait till a massive and dislocating operation is necessary. An early identification of suitable communities which can expand to contain the increasing population and a study of the co-ordinated policies required to meet this particular problem are needed. An adverse factor is the legacy of the first Industrial Revolution, though this is offset by space, communications and opportunity.

469. If the situation described above is adequately dealt with, the Region may well be in a position to receive such additional population from elsewhere as seems nationally

desirable. This possibility could well be clarified alongside the study of location required by the Region's own emerging problem. The economic basis for expansion is certainly present.

Looking Ahead

470. This Study was undertaken as an essential first stage in regional planning; by setting out the known facts about the Region and the tentative conclusions which can be drawn from them, it is hoped that it will provide a common background for all concerned with the future of the Region, or any of its parts or aspects. It is appropriate at the end of this Study to see what is being done, and what it would be desirable to do, to add more definition and substance to the generalised conclusions reached.

Productivity

471. All plans for the Region must be based on industrial strength, and the first aspect of the Region's life to which attention should be directed is clearly that of productivity. Growth rates in consumption per annum of particular products in the United States of America in the decade 1954–64 give some pointer to the fields in which expansion is likely to be most rapid in the United Kingdom in the coming decade. Growth rates of nearly 20% per annum in industrial electronic equipment and of over 20% per annum in rayon, nylon cord and synthetic fibres, were achieved in the USA. The number of computers being installed in Britain per annum is increasing at the rate of 40% and is likely to do so for at least ten years if trends in Britain continue to follow those in the USA. These considerations, coupled with the promising indications from exploration for gas in the North Sea, have prompted the Planning Board to institute studies of some of those industries likely to be most productive in the East Midlands in twenty years' time. Four study groups are being set up to consider the subjects described below.

472. The main work of the study group on North Sea gas cannot begin until the central study being conducted by the Ministry of Power nationally has been completed. This will be concerned with the policies both for distribution and pricing. Meanwhile, representatives of the East Midlands Gas Board, of Nottingham University, and of some of the major industrial users have agreed to prepare for a more detailed study once the Ministry of Power has announced its policy. The importance of the discovery of gas under the North Sea is clearly very great for the national economy. So far as the Region is concerned the significance to the engineering industry of these finds and the work involved in utilising them, will be readily understood. It seems unlikely, however, that the finds will have an appreciable effect on the physical location of industry; the fuel bill is not for most industries a high proportion of the cost of production, and the difference between the cost of natural gas at the point where it is brought ashore and places further inland is unlikely to be a decisive factor in locating industrial development.

473. A study of repercussions of a rapid expansion of computer usage in the East Midlands has been arranged with the participation of representatives from International Computers and Tabulators Ltd., Boots Pure Drug Co. Ltd., Rolls Royce Ltd., and the Ministry of Technology. The study will consider all uses, including commercial, engineering, scientific and process control. The educational facilities in the Region for training computer technologists may need to be rapidly expanded.

474. Representatives from the Ministry of Technology, the Allen Clark Research Centre of the Plessey Group, Ericsson Telephones Ltd., Associated Electrical Industries Ltd. (Electronics Group) and Nottingham University are participating in a study of the repercussions on industry generally of current developments in electronics. Work on micro-circuitry is being expanded rapidly in two firms in the Region. It is already apparent that expansion of production in this field will require special attention to training operators; the techniques used are quite new.

475. Representatives from the Hosiery and Allied Trades Research Association, British Celanese Ltd., N. Corah (St. Margaret) Ltd. and the Derby College of Technology are assisting in a study of ways in which development in man-made and synthetic fibres are likely to affect the Region.

476. Apart from these regionally inspired studies work is proceeding, as always, on productivity studies and technological research in many industries and individual firms. The problem here is to examine the existing methods and machinery of co-ordination, so that results can be used as widely and as rapidly as possible. At national level the efforts of the Economic Development Committees will be to the forefront; but regional effort may also contribute, and opportunities to do so must be sought. There are ample examples both at home and abroad of individual firms achieving productivities much higher than the average. Hence the extension of such performance to other firms is more a problem of application then of research. The other aspect of this, the need for regional data on output and productivity has already been mentioned; regional

effort cannot be fully effective until its results can be better assessed. The limitations of the analysis in Chapter 6 illustrate the difficulties of the present position; further work on regional economic data and analysis is clearly desirable.

Man-Power

477. Studies of output and productivity lead on to the problems of man-power. Industrial location policies and physical planning policies both have a bearing on job availability, and equally the manning policies of industry will help to determine whether further labour can be attracted back into employment. There is scope here for useful action, but in the circumstances of the East Midlands it is likely to be very limited. Whatever is achieved in this way, the Region can expect a shortage of man-power for a long time to come, and emphasis therefore needs to be placed on making the best use of the labour there is. Continuing studies of likely redeployment of labour will therefore be needed, and the training facilities within industry adapted in the light of any conclusions; the existing liaison between education authorities and industry will—as both sides already recognise—need to be continued and strengthened, so that all the abilities of the labour force are utilised more effectively. The industrial liaison officers at Loughborough University and at colleges of technology, under arrangements sponsored by the Ministry of Technology, afford one means of strengthening this liaison.

Environment

478. In terms of environment it can be accepted that the Region is in general pleasant to live in, but there are countless ways in which it could be improved, and the resources available to achieve improvement will remain limited. The major task of regional planning bodies is to get the priorities right; protection of environment and its improvement have been the constant aim of local planning authorities and they have the statutory responsibility for many aspects of development. The long-term regional context in which individual decisions are taken is needed, but the contribution of the local planning authorities will remain fundamental, and the key-note must be wide understanding and co-operation. Many of the separate aspects of environmental planning have been described in this Study but others, such as provision for sport and physical recreation or for the development of the arts, have been mentioned only in passing. A Regional Sports Council has been formed and is reviewing the sports facilities available to see whether these could be used to better advantage and to ascertain what else is required. All these subjects must be studied further, not only because they have legitimate demands for finances, scarce physical resources and man-power, but because they can contribute very largely to the richness of life.

479. The most complex environmental problems are those of urban location. Decisions must be taken soon to identify areas in which it would be desirable to encourage the settlement of increasing populations, so that industrial policies and social investment policies can be co-ordinated to achieve agreed objectives. The success or failure of such policies will depend, however, not only on how well they are co-ordinated, but also on how far the objectives are accepted by industrialists as likely to provide the right economic environment, and by private citizens as likely to create an attractive environment for living. Studies of Northamptonshire have already been undertaken in response to the needs of other areas, and it has been suggested in an earlier chapter that studies of the Nottingham–Derby–Sheffield belt and of north-west Leicestershire are necessary, primarily to meet their own emerging needs, but also to examine the contribution these areas should make to the national problem. These suggestions need to be explored in much greater depth than has so far been possible, and so many other decisions depend on their acceptance or rejection that the pursuit of this subject must be regarded as one of the most urgent tasks facing the Region.

480. The problems of the areas mentioned above are only special cases of the more general problem faced by all our communities. Some of them have experienced falls in population, which it may be desirable to arrest, and others expect large increases which will strain their present social equipment. Each community must face now the problem of its economic and social role in the twenty-first century, because only on this basis can the right decisions on many subjects be taken today. It is in order to throw light on one aspect of this general issue that the Economic Planning Council has suggested a study of retail trade patterns in towns throughout the Region. Continued study of rural depopulation as well as of urban renewal are called for, but modern transport is rapidly altering the nature of the problem in both cases.

Transport

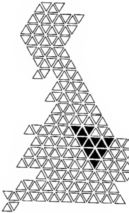
481. The transport problem is fundamental because the whole scale of modern life depends on communications; unless there is a very considerable increase in public expenditure, the inter-urban and the city centre patterns of communications will be inadequate. It is vital, therefore, to find the right priorities for expenditure, and to use all existing facilities to the best possible advantage. It is with this in mind

that the Economic Planning Council instituted the studies of the Leicester passenger transport arrangements and of the transport of coal. But these studies however valuable in themselves touch only two out of many aspects, and further work in this field is needed. The growing use of air transport must also be taken into account. Both the economic health of the Region and the ability of its people to enjoy their environment depend on transport; but any co-ordination or integration of transport must be related to the physical development by which traffic is generated.

General Conclusion

482. The present condition of the Region is decidedly healthy; to keep it so in a world changing so rapidly will require effort by everyone. The broad policies must be submitted to the test of public opinion, their execution agreed and concerted by all the organisations involved. This Study and the work of the regional planning bodies may contribute to make this co-operation effective, but the regional machinery is new and this Study no more than a beginning. The Region will need continuous investment, both industrial and social, if it is to contribute as fully as it could to the prosperity of the country: but emphatically it is a Region where the opportunities outweigh the problems.

Appendices



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APPENDIX

1

Economic Planning Regions of Great Britain

Composition of Economic Planning Regions	1955 Civilian Population '000
All Areas	52,691
Northern Region	3,297
Cumberland	296
Durham	1,536
Northumberland	627
Westmorland	67
Yorkshire, North Riding	572
Yorkshire and Humberside Region	4,700
Lincolnshire, parts of Lindsey excluding Lincoln CB	443
Yorkshire, East Riding	539
Yorkshire, West Riding	3,718
North West Region	6,701
Cheshire	1,452
Derbyshire (part)*	71
Lancashire	5,176
East Midlands Region	**3,260**
Derbyshire (part)*	**836**
Leicestershire	**711**
Lincolnshire: Parts of Holland	**105**
Lincolnshire: Parts of Kesteven with Lincoln CB	**218**
Northamptonshire	**422**
Nottinghamshire	**942**
Rutland	**25**
West Midlands Region	4,963
Herefordshire	137
Shropshire	312
Staffordshire	1,834
Warwickshire	2,076
Worcestershire	605
East Anglia	1,532
Cambridgeshire and Isle of Ely	289
Huntingdon and Peterborough	173
Norfolk	574
Suffolk, East	359
Suffolk, West	137

Composition of Economic Planning Regions	1965 Civilian Population '000
South East	16,750
Bedfordshire	417
Berkshire	564
Buckinghamshire	528
Essex	1,214
Hampshire	1,412
Hertfordshire	560
Kent	1,287
Greater London	7,930
Oxfordshire	335
Surrey	962
Sussex, East	702
Sussex, West	443
Wight, Isle of	98
South West Region	3,626
Cornwall	344
Devon	841
Dorset	325
Gloucestershire	1,041
Somerset	527
Wiltshire	460
Wales	2,683
Anglesey	54
Breconshire	54
Caernarvonshire	120
Cardiganshire	53
Carmarthenshire	166
Denbighshire	178
Flintshire	157
Glamorganshire	1,247
Merionethshire	39
Monmouthshire	460
Montgomeryshire	44
Pembrokeshire	94
Radnorshire	15
England and Wales	47,153
Scotland	5,178

* The area of Derbyshire falling within the North West Region comprises Buxton MB, Glossop MB, New Mills UD, Whaley Bridge UD and Chapel en le Frith RD.

Source Registrar General's mid-year estimates of civilian population 1965.

APPENDIX

2

Population Distribution and Density, 1965

Area/Economic Planning Region	Home Population 1965		Area in Square Miles		Gross Density persons per square mile
	'000	% distribution	'000	% distribution	
Great Britain	**52,967**	**100·0**	**88,759***	**100·0**	597
North West Region	6,704	12·7	3,083	3·5	2,174
South East Region	16,858	31·8	10,558	11·9	1,597
West Midlands Region	4,975	9·4	5,025	5·7	990
Yorkshire and Humberside Region	4,712	8·9	5,474	6·2	861
East Midlands Region	**3,272**	**6·2**	**4,711**	**5·3**	**695**
Northern Region	3,309	6·2	7,471	8·4	443
South West Region	3,881	6·9	9,159	10·3	402
Wales	2,693	5·1	8,016	9·0	336
East Anglia Region	1,559	2·9	4,852	5·5	321
Scotland	5,204	9·8	30,411	34·3	171

* Including inland water—941 square miles.

Source Registrar General's mid-year estimates of home population 1965.

APPENDIX

3

Sub-Regions of the East Midlands

Area	1965 Civilian Population
All Areas	3,259,541
Nottinghamshire–Derbyshire sub-region	1,769,064
Leicester sub-region	684,481
Eastern Lowlands sub-region	383,940
Northamptonshire sub-region	422,056

Nottinghamshire–Derbyshire sub-region

Constituent Area	1955 Civilian Population
All Areas	1,769,064
Nottinghamshire	
Nottingham district	557,955
Nottingham CB	310,922
Arnold UD	29,856
Beeston and Stapleford UD	59,246
Carlton UD	40,655
Hucknall UD	25,112
West Bridgford UD	27,712
Basford RD	65,181
Bingham RD	32,122
Ilkeston MB (Derbys.)	35,243
Long Eaton UD (Derbys.)	31,904
Mansfield–Worksop district	251,631
Mansfield MB	55,072
Kirkby-in-Ashfield UD	22,239
Mansfield Woodhouse UD	22,943
Sutton-in-Ashfield UD	40,547
Warsop UD	12,724
Worksop MB	35,428
Worksop RD	18,612
Blackwell RD (Derbys.)	44,066
Newark–Retford district	132,577
Newark MB	24,843
East Retford MB	18,532
East Retford RD	22,657
Newark RD	15,816
Southwell RD	50,729

Constituent Area	1965 Civilian Population
Derbyshire	
Derby district	338,531
Derby CB	128,158
Belper UD	15,874
Belper RD	37,550
Repton RD	41,131
South-east Derbyshire RD	104,091
Castle Donington RD (Leics.)	10,727
Chesterfield district	247,959
Chesterfield MB	70,166
Bolsover UD	11,800
Clay Cross UD	9,288
Dronfield UD	13,686
Staveley UD	18,509
Chesterfield RD	104,676
Clowne RD	19,832
Erewash Valley district	75,880
Alfreton UD	22,818
Heanor UD	24,157
Ripley UD	17,777
Eastwood UD (Notts.)	11,128
High Derbyshire district	64,531
Matlock UD	19,503
Ashbourne UD	5,704
Bakewell UD	4,027
Wirksworth UD	5,083
Ashbourne RD	11,480
Bakewell RD	18,734

APPENDIX 3 continued

Leicester sub-region

Constituent Areas	1965 Civilian Population	Constituent Areas	1965 Civilian Population
All Areas	884,481	**Leicestershire–South Derbyshire Coalfield district**	100,948
Leicester district	505,055	Ashby-de-la-Zouch UD	7,528
Leicester CB	287,015	Ashby Woulds UD	3,329
Loughborough MB	39,375	Coalville UD	27,609
Oadby UD	15,314	Ashby-de-la-Zouch RD	13,703
Wigston UD	25,112	Market Bosworth RD	28,726
Shepshed UD	7,796	Swadlincote UD (Derbys.)	20,055
Barrow-on-Soar RD	62,449		
Billesdon RD	21,442		
Blaby RD	66,552	**Market Harborough district**	35,947
		Market Harborough UD	12,550
Hinckley district	42,531	Lutterworth RD	13,602
Hinckley UD	42,531	Market Harborough RD	9,795

Eastern Lowlands sub-region

Constituent Areas	1965 Civilian Population	Constituent Areas	1965 Civilian Population
All Areas	383,940	**Holland district**	104,882
		Boston MB	25,087
Lincoln district	113,133	Spalding UD	15,338
Lincoln CB	76,890	Boston RD	22,731
North Kesteven RD	36,243	East Elloe RD	21,783
		Spalding RD	19,763
Kesteven district	105,188		
Grantham MB	25,754	**Melton–Oakham district**	60,959
Bourne UD	6,554	Melton Mowbray UD (Leics.)	17,261
Sleaford UD	7,630	Oakham UD (Rutland)	4,931
Stamford MB	12,713	Melton and Belvoir RD (Leics.)	18,703
East Kesteven RD	20,018	Ketton RD	3,612
South Kesteven RD	15,424	Oakham RD } Rutland	9,954
West Kesteven RD	17,763	Uppingham RD	8,288

Northamptonshire sub-region

Constituent Areas	1965 Civilian Population	Constituent Areas	1965 Civilian Population
All Areas	422,056	**Wellingborough district**	100,300
		Wellingborough UD	32,504
Northampton district	158,898	Higham Ferrers MB	4,208
Northampton CB	121,414	Irthlingborough UD	5,180
Brixworth RD	16,532	Oundle UD	3,451
Northampton RD	18,950	Raunds UD	4,752
		Rushden UD	17,602
Corby district	44,602	Oundle and Thrapston RD	16,465
Corby UD	44,602	Wellingborough RD	14,138
Kettering district	84,692	**Daventry–Brackley district**	55,586
Kettering MB	39,034	Daventry MB	6,278
Burton Latimer UD	4,484	Brackley MB	3,834
Desborough UD	4,590	Brackley RD	11,790
Rothwell UD	4,746	Daventry RD	17,575
Kettering RD	11,658	Towcester RD	18,289

Source Registrar General's mid-year estimates of civilian population 1965

APPENDIX

4a Civilian Population Changes*: Great Britain by Regions, 1951–65

Area	Distribution of Civilian Population mid-1951		Total Change		Natural Change		Estimated Net Gain from Armed Forces Rundown	Estimated Net Balance by Migration		Distribution of Civilian Population mid-1965	
	'000	%	'000	%	'000	%	'000	'000	%	'000	%
Northern Region	3,085·0	6·4	202·2	6·5	278·6	9·0	26·1	−103·5	−3·4	3,297·2	6·3
Yorkshire and Humberside Region.. ..	4,459·1	9·2	240·5	5·4	305·8	8·9	37·5	−102·8	−2·3	4,699·6	8·9
North West Region	8,379·8	13·2	320·9	5·0	391·1	6·1	53·8	−123·8	−1·9	6,700·7	12·7
East Midlands Region	**2,691·6**	**6·0**	**367·7**	**12·7**	**255·3**	**6·6**	**24·6**	**67·6**	**3·0**	**3,256·5**	**6·2**
West Midlands Region	4,383·3	9·1	560·1	13·2	440·8	10·1	37·6	101·7	2·3	4,963·4	9·4
East Anglia Region	1,347·8	2·8	184·2	13·7	99·2	7·4	11·5	73·5	5·5	1,531·9	2·9
South East Region	14,914·7	30·8	1,835·1	12·3	1,101·0	7·4	127·9	808·2	4·1	16,749·6	31·6
South West Region	3,226·8	8·7	399·4	12·4	174·4	5·4	27·8	197·4	6·1	3,628·2	8·9
Wales	2,569·0	5·3	114·1	4·4	132·0	5·1	21·5	−39·4	−1·5	2,683·1	5·1
England and Wales	43,269·0	89·5	4,244·4	8·8	3,179·3	7·3	368·1	697·0	1·6	47,513·4	90·2
Scotland	5,084·3	10·5	113·2	2·2	498·8	9·6	43·0	−428·4	−8·5	5,177·5	9·8
Great Britain	**46,333·3**	**100·0**	**4,357·6**	**6·0**	**3,677·9**	**7·6**	**411·1**	**266·6**	**0·6**	**52,690·6**	**100·0**

* As the estimates used are for civilian population only, allowance has to be made for reduction in the size of the armed forces over the period In the absence of information on the destinations of demobilised personnel the net gain to the civilian population of the country as a whole from this source has been allocated to areas *pro rata* to their population. The estimates of net migration have been calculated by deducting from the total population change the estimates of natural change and the allowances made for gains from the armed forces.

Source Registrar General's mid-year estimates of civilian population.

APPENDIX

4*b* Civilian Population Changes*: Great Britain by Regions, 1951–56

Area	Distribution of Civilian Population mid-1951		Total Change		Natural Change		Estimated Net Gain from Armed Forces Rundown	Estimated Net Balance by Migration		Distribution of Civilian Population mid-1956	
	'000	%	'000	%	'000	%	'000	'000	%	'000	%
Northern Region	3.095·0	8·4	47·4	1·5	89·9	2·9	4·9	−47·4	−1·5	3,142·4	6·4
Yorkshire and Humberside Region	4,459·1	9·2	45·8	1·0	85·0	1·9	7·1	−48·5	−1·0	4,504·7	9·1
North West Region	6.379·8	13·2	51·8	0·6	101·7	1·6	10·2	−60·3	−0·9	6,431·4	13·1
East Midlands Region	**2,891·8**	**6·0**	**88·2**	**3·0**	**71·4**	**2·5**	**4·8**	**12·2**	**0·4**	**2.980·0**	**8·0**
West Midlands Region	4.363·3	9·1	126·2	2·9	121·5	2·6	7·0	−3·3	−0·1	4.508·5	9·2
East Anglia Region	1,347·8	2·8	30·8	2·3	28·2	2·1	2·1	0·5	—	1,376·4	2·6
South East Region	14,914·7	30·8	411·4	2·8	276·8	1·9	23·8	110·6	0·7	15.326·1	31·1
South West Region	3,226·8	6·7	63·0	2·0	48·0	1·4	5·2	11·8	0·4	3.291·6	6·7
Wales	2,569·0	5·3	18·8	0·7	39·7	1·6	4·1	−25·0	−1·0	2,587·8	5·3
England and Wales	43,268·0	89·5	862·0	2·0	860·0	2·0	69·0	−47·0	−0·1	44,151·0	89·7
Scotland	5.064·3	10·5	19·0	0·4	163·3	3·0	5·3	−139·6	−2·8	5.083·3	10·3
Great Britain	**48,333·3**	**100·0**	**901·0**	**1·9**	**1,013·4**	**2·1**	**74·3**	**−186·7**	**−0·4**	**49,234·3**	**100·0**

* See footnote to Appendix 4*a*.

Source Registrar General's mid-year estimates of civilian population.

APPENDIX

4c Civilian Population Changes*: Great Britain by Regions, 1956–61

Area	Distribution of Civilian Population mid-1956		Total Change		Natural Change		Estimated Net Gain from Armed Forces Rundown	Estimated Net Balance by Migration		Distribution of Civilian Population mid-1961	
	'000	%	'000	%	'000	%	'000	'000	%	'000	%
Northern Region	3,142·4	6·4	92·1	2·9	103·7	3·3	16·0	−26·6	−0·9	3,234·5	8·3
Yorkshire and Humberside Region.. ..	4,504·7	9·1	75·7	1·7	107·4	2·4	25·6	−57·5	−1·3	4,580·4	9·0
North West Region	8,431·4	13·1	110·0	1·7	133·7	2·1	36·9	−60·5	−0·9	6,541·4	12·8
East Midlands Region	**2,980·0**	**6·0**	**141·6**	**4·8**	**88·3**	**3·0**	**17·1**	**36·2**	**1·2**	**3,121·6**	**8·1**
West Midlands Region	4,506·5	9·2	234·8	5·2	154·5	3·4	25·8	54·5	1·2	4,743·3	9·3
East Anglia Region	1,378·4	2·6	71·9	5·2	36·4	2·6	7·9	27·6	2·0	1,450·3	2·8
South East Region	15,326·1	31·1	806·7	5·3	366·3	2·5	87·9	332·5	2·2	15,132·8	31·6
South West Region	3,291·8	6·7	169·5	5·1	60·1	1·8	16·9	90·5	2·7	3,461·3	5·6
Wales	2,587·8	5·3	37·7	1·5	44·6	1·7	14·8	−21·7	−0·8	2,625·5	5·2
England and Wales	44,151·0	89·7	1,740·1	3·9	1,114·9	2·5	253·1	372·1	0·8	45,891·1	89·9
Scotland	5,083·3	10·3	72·1	1·4	185·3	3·8	28·7	−141·9	−2·8	6,155·4	10·1
Great Britain..	**49,234·3**	**100·0**	**1,812·2**	**3·7**	**1,300·2**	**2·8**	**281·8**	**230·2**	**0·5**	**51,046·5**	**100·0**

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* See footnote to Appendix 4a.

Source Registrar General's mid-year estimates of civilian population.

APPENDIX

4d Civilian Population Changes*: Great Britain by Regions, 1961–62

Area	Distribution of Civilian Population mid-1961		Total Change		Natural Change		Estimated Net Gain from Armed Forces Rundown	Estimated Net Balance by Migration		Distribution of Civilian Population mid-1962	
	'000	%	'000	%	'000	%	'000	'000	%	'000	%
Northern Region	3,234·5	6·3	30·4	0·9	22·1	0·7	1·9	6·4	0·2	3,264·9	6·3
Yorkshire and Humberside Region.. ..	4,680 4	9·0	40·7	0·9	25·8	0·6	2·8	12·3	0·3	4,621·1	9·0
North West Region	6,541·4	12·8	55·6	0·8	33·8	0·5	4·0	17·8	0·3	6,597·0	12·8
East Midlands Region	**3.121 6**	**6 1**	**40·1**	**1·3**	**22·0**	**0·7**	**1·9**	**16 2**	**0·5**	**3,161·7**	**6·1**
West Midlands Region	4,743·3	9·3	87·7	1·4	38·1	0·8	2·9	26·7	0·8	4,811·0	9·3
East Anglia Region	1,450 3	2·8	20·8	1·4	8·2	0·6	0·9	11·7	0·8	1.471·1	2·9
South East Region	18,132·8	31·6	208·3	1·3	97 5	0·8	9·8	99·0	0·8	18,339·1	31·7
South West Region	3,461·3	6·8	48·8	1·3	18·0	0·4	2·1	28·5	0·6	3,506·9	6 6
Wales	2,625·5	5·2	20·1	0·8	10·8	0·4	1·6	7·7	0·3	2,645 6	5 1
England and Wales	45,891·1	89·9	527·3	1·1	273·1	0·6	27·9	226·3	0·5	46,418·4	90·0
Scotland	5,185 4	10·1	12·7	0·2	39·1	0·6	3·1	−29·5	−0·6	5.168·1	10·0
Great Britain	**51,046·5**	**100·0**	**540 0**	**1 1**	**612·2**	**0 6**	**31·6**	**196·8**	**0·4**	**51,586 5**	**100·0**

* See footnote to Appendix 4a.

Source Registrar General's mid-year estimates of civilian population.

APPENDIX

4e

Civilian Population Changes*: Great Britain by Regions, 1961–65

Area	Distribution of Civilian Population mid-1961		Total Change		Natural Change		Estimated Net Gain from Armed Forces Rundown	Estimated Net Balance by Migration		Distribution of Civilian Population mid-1965	
	'000	%	'000	%	'000	%	'000	'000	%	'000	%
Northern Region	3,234·6	6·3	62·7	1·9	66·1	2·7	3·2	−26·8	−0·8	3,297·2	6·3
Yorkshire and Humberside Region.. ..	4,680·4	9·0	119·2	2·6	113·4	2·5	4·6	1·2	—	4,699·6	6·9
North West Region	6,541·4	12·8	159·3	2·4	155·8	2·4	6·5	−3·0	—	8,700·7	12·7
East Midlands Region	**3,121·6**	**6·1**	**137·9**	**4·4**	**95·6**	**3·1**	**3·1**	**39·2**	**1·3**	**3,259·5**	**6·2**
West Midlands Region	4,743·3	9·3	220·1	4·8	164·9	3·5	4·8	50·4	1·1	4,963·4	9·4
East Anglia Region	1,450·3	2·6	81·6	5·6	34·6	2·4	1·5	45·5	3·1	1,531·9	2·9
South East Region	16,132·6	31·6	617·0	3·8	437·9	2·7	16·2	162·9	1·0	16,749·6	31·6
South West Region	3,461·3	8·8	166·9	4·8	68·4	2·0	3·5	95·0	2·7	3,628·2	6·9
Wales	2,825·5	5·2	57·6	2·2	47·7	1·8	2·6	7·3	0·3	2,683·1	5·1
England and Wales	45,891·1	89·9	1,622·3	3·5	1,204·3	2·8	46·0	372·0	0·8	47,513·4	90·2
Scotland	5,155·4	10·1	22·1	0·4	160·0	3·1	9·0	−146·9	−2·6	5,177·5	9·8
Great Britain	**51,046·5**	**100·0**	**1,644·4**	**3·2**	**1,364·3**	**2·7**	**55·0**	**225·1**	**0·4**	**52,690·9**	**100·0**

* See footnote to Appendix 4a

Source Registrar General's mid-year estimates of civilian population.

APPENDIX

5

Civilian Population: Mean Annual Changes by Migration,* Great Britain by Regions, 1951–56, 1956–61, 1961–62, 1962–65

Area	1951–56		1956–61		1961–62		1962–65	
	'000	%	'000	%	'000	%	'000	%
Great Britain	**−37·4**	**−0·08**	**46·0**	**0·09**	**196·9**	**0·39**	**9·3**	**0·02**
Scotland	−25·0	−0·55	−28·4	−0·55	−29·5	−0·57	−39·1	−0·76
Northern Region	−9·5	−0·30	−5·8	−0·19	5·4	0·20	−11·0	−0·33
Yorkshire and Humberside Region	−9·3	−0·21	−11·2	−0·25	12·3	0·27	−3·7	−0·07
North West Region	−12·0	−0·19	−12·1	−0·19	17·8	0·27	−6·9	−0·10
East Midlands Region	**2·4**	**0·08**	**7·0**	**0·23**	**18·2**	**0·52**	**7·7**	**0·27**
West Midlands Region	−0·7	−0·01	10·9	0·24	25·7	0·57	7·9	0·17
East Anglia Region	0·1	0·01	5·5	0·40	11·7	0·51	11·3	0·77
South East Region	22·2	0·14	85·5	0·44	99·0	0·52	21·3	0·13
South West Region	2·4	0·07	15·1	0·54	28·5	0·82	22·2	0·63
Wales	−5·0	−0·19	−4·3	−0·17	7·7	0·29	−0·1	0·00

* See footnote to Appendix 4a

Source Registrar General's mid-year estimates of civilian population.

APPENDIX

6

Migration between North Midland and other Standard Regions, 1960–61

Standard Region	Gross Movements into North Midland			Gross Movements out of North Midland			Net Movements into North Midland		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
Northern	2,480	2,250	4,730	1,160	1,180	2,350	+1,320	+1,060	+2,380
North Western	3,140	3,410	6,550	2,640	2,820	5,280	+500	+790	+1,290
East and West Ridings	5,290	6,490	10,780	3,570	3,180	8,750	+1,720	+2,310	+4.030
Midland	4,150	3,820	7,970	3,880	3,830	7,710	+270	−10	+280
Eastern	4,180	4,150	8,330	4,270	4,230	8,500	−90	−80	−170
London and South Eastern	4,330	4,630	8,960	4,890	4,470	9,360	−560	+160	−400
Greater London Conurbation	3,110	3,330	8 440	2,850	2,560	5,410	+260	+770	+1,030
Southern	2,250	2,310	2,580	2,180	2,790	4,980	+60	−480	−420
South Western	1,930	1,860	3,790	2,170	2,150	4,320	−240	−290	−530
Wales	940	890	1,830	1,030	830	1,860	−90	+60	−30
Total Movement	28,690	29,810	57,500	25,800	25,290	51,090	+2,890	+3,520	+8,410

Source 1961 Census, 10% Sample.

APPENDIX

7a Civilian Population Changes*: East Midlands Region, 1951–65

Area	1951		Change 1951–65							1965	
	Distribution		Total Change		By Births and Deaths		Estimated Net Gain from Armed Forces Rundown	Net Balance by Migration		Distribution	
	'000	%	'000	%	'000	%	'000	'000	%	'000	%
East Midlands Region	**2.891·8**	**100·0**	**367·7**	**12·7**	**255·3**	**8·8**	**24·8**	**87·6**	**3·0**	**3.259·5**	**100·0**
Nottinghamshire–Derbyshire Sub-Region	1,577·0	54·5	192·1	12·2	141·8	9·0	13·5	38·8	2·3	1,769·1	54·3
Chesterfield District	207·4	7·2	40·6	19·6	20·1	9·7	1·8	18·8	9·1	248·0	7·6
Erewash Valley District	75·5	2·6	0·4	0·5	4·8	5·3	0·6	–5·1	–6·8	76·9	2·3
Derby District	301·8	10·4	38·7	12·2	23·9	8·0	2·6	10·2	3·4	338·5	10·4
High Derbyshire District	62·9	2·2	1·8	2·5	1·8	2·9	0·6	–0·8	–1·3	64·5	2·0
Mansfield–Worksop District	230·5	8·0	21·0	8·1	23·3	10·1	2·0	–4·3	–1·9	251·5	7·7
Newark–Retford District	109·5	3·8	23·1	21·1	11·1	10·1	1·1	11·0	10·0	132·8	4·1
Nottingham District	589·3	20·4	68·7	11·7	55·7	9·8	5·0	7·0	1·2	658·0	20·2
Leicester Sub-Region	808·7	21·0	75·8	12·8	52·9	8·7	5·2	17·8	3·0	884·5	21·0
Leicester District	441·5	15·3	83·8	14·4	41·4	9·4	3·7	18·4	4·2	505·1	15·5
Leicestershire–South Derbyshire Coalfield District	98·2	3·3	4·8	5·0	5·9	6·1	0·8	–2·0	–2·1	101·0	1·1
Market Harborough District	32·0	1·1	3·9	12·2	2·1	6·6	0·2	1·8	5·0	35·9	3·1
Hinckley District	39·0	1·3	3·6	9·0	3·8	9·2	0·4	–0·5	–1·3	42·6	1·3
Eastern Lowlands Sub-Region	345·9	12·0	38·0	11·0	30·3	8·8	2·9	4·8	1·4	383·9	11·8
Lincoln District	96·0	3·3	17·1	17·8	9·0	9·4	0·9	7·3	7·6	113·1	3·5
Kesteven District	96·8	3·3	8·4	8·7	7·9	8·2	0·9	–0·3	–0·3	105·2	3·2
Holland District	101·1	3·5	3·6	3·8	7·7	7·6	0·9	–5·0	–4·9	104·7	3·2
Melton–Oakham District	52·0	1·8	9·0	10·3	5·7	11·0	0·5	2·7	5·2	81·0	1·9
Northamptonshire Sub-Region	360·2	12·5	81·9	17·2	30·2	8·4	3·2	28·5	7·9	422·1	12·9
Northampton District	140·8	4·9	18·1	11·4	9·4	8·7	1·2	5·5	3·9	158·9	4·8
Kettering District	82·3	2·2	2·4	3·9	2·8	4·2	0·8	–0·8	–1·3	64·7	2·0
Wellingborough District	92·3	3·2	8·0	8·7	5·1	5·5	0·8	2·2	2·4	100·3	3·1
Corby District	17·0	0·8	27·8	182·4	9·2	54·1	0·2	18·2	107·1	44·8	1·4
Deventry–Brackley District	47·7	1·8	7·8	16·4	3·8	8·0	0·4	3·5	7·3	55·5	1·7

* See footnote to Appendix 4a.

Source Registrar General's mid-year estimates of civilian population.

APPENDIX

7b Civilian Population Changes*: East Midlands Region, 1951–56

Area	1951		Change 1951–56							1956	
	Distribution		Total Change		By Births and Deaths		Estimated Net Gain from Armed Forces Rundown	Net Balance by Migration		Distribution	
	'000	%	'000	%	'000	%	'000	'000	%	'000	%
East Midlands Region	2,891·6	100 D	88·2	3·1	71·4	2·5	4·6	12·2	0·4	2,979·9	100·D
Nottinghamshire–Derbyshire Sub-Region	1,577·0	54·5	52·7	3·3	41·1	2·6	2·5	9·1	0·8	1,829·7	54·7
Chesterfield District	207·4	7·2	15·7	8·1	8·0	2·9	0·3	10·5	5·1	224·1	7·5
Erewash Valley District	75·5	2·8	0·4	0·5	1·9	2·5	D·1	–1·6	–2·1	75·9	2·9
Derby District	301·8	10·4	5·5	2·2	8·0	2·0	0·5	D·0	0·0	308·4	1D·3
High Derbyshire District	62·9	2·2	0·0	0·0	0·5	1·0	0·1	–0·7	–1·1	62·9	2·1
Mansfield–Worksop District	230·5	6·0	5·5	2·4	7·4	3·2	0·4	–2·4	–1·D	236·0	7·9
Newark–Retford District	109·5	3·8	5·4	5·9	3·4	3·1	0·2	2·7	2·4	115·9	3·9
Nottingham District	589·3	20·4	17·3	2·9	15·8	2·8	0·9	0·8	0·1	805·6	20·4
Leicester Sub-Region	608·7	21·0	14·8	2·4	13·6	2·3	1·0	0·0	0·0	623·5	20·9
Leicester District	441·5	15·3	12·8	2·9	9·9	2·2	0·7	1·9	0·4	454·1	15·2
Leicestershire–South Derbyshire Coalfield District	98·2	3·3	0·8	0·8	2·2	2·2	D·2	–1·6	–1·7	97·D	3·3
Market Harborough District	32·0	1·1	0·4	1·3	0·5	1·8	0·0	–0·2	–0·6	32·4	1·1
Hinckley District	39·0	1·3	1·0	2·8	1·2	3·1	0·1	–0·2	–0·5	40·0	1·3
Eastern Lowlands Sub-Region	345·9	12·0	6·6	1·9	9·4	2·7	0·5	–3·3	–1·D	352·5	11·8
Lincoln District	98·0	3·3	1·8	1·9	2·1	2·2	0·2	–0·5	–0·5	97·8	3·3
Kesteven District	95·8	3·3	1·8	1·9	2·5	2·8	0·2	–0·8	–0·8	98·6	3·3
Holland District	101·1	3·5	1·2	1·2	2·9	2·9	0·2	–1·9	–1·9	102·3	3·4
Melton–Oakham District	52·0	1·8	1·8	3·5	1·8	3·5	0·1	–0·1	–0·2	53·8	1·8
Northamptonshire Sub-Region	350·2	12·5	14·1	3·9	7·1	2·0	0·8	6·4	1·8	374·3	12·6
Northampton District	140·8	4·9	2·4	1·7	1·8	1·1	0·2	0·5	0·4	143·2	4·8
Kettering District	82·3	2·2	0·7	1·1	0·9	1·4	0·1	–0·3	–0·5	63·0	2·1
Wellingborough District	92·3	3·2	1·0	1·1	1·2	1·3	0·2	–0·4	–0·4	93·3	3·1
Corby District	17·D	0·6	9·2	54·1	2·2	12·9	0·0	7·0	41·2	26·2	0·9
Daventry–Brackley District	47·7	1·5	0·8	1·7	1·1	2·3	0·1	–0·3	–0·8	48·5	1·6

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* See footnote to Appendix 4a.

Source Registrar General's mid-year estimates of civilian population.

APPENDIX

7c

Civilian Population Changes*: East Midlands Region, 1956–61

Area	1956		Change 1956–61							1961	
	Distribution		Total Change		By Births and Deaths		Estimated Net Gain from Armed Forces Rundown	Net Balance by Migration		Distribution	
	'000	%	'000	%	'000	%	'000	'000	%	'000	%
East Midlands Region	**2,979·9**	**100 0**	**141·6**	**4·8**	**88·3**	**3·0**	**17·1**	**36·2**	**1·2**	**3,121·6**	**100·0**
Nottinghamshire–Derbyshire Sub-Region	1,629·7	54·7	89·7	4·3	49·1	3·0	9·3	11·3	0·7	1.699·4	54·4
Chesterfield District	224·1	7·5	14·5	8·6	7·2	3·2	1·3	6·0	2·6	238·6	7·5
Erewash Valley District	75·9	2·6	−1·0	−1·3	1·6	2·1	0·4	−3·0	−4·0	74·9	2·4
Derby District	308·4	10·3	15·9	5·2	8·1	2·8	1·8	6·0	1·9	324·3	10·4
High Derbyshire District	82·8	2·1	0·3	0·4	0·4	0·8	0·4	−0·6	−1·0	83·2	2·0
Mansfield–Worksop District	236·0	7·9	6·4	2·7	8·1	3·4	1·5	−3·2	−1·4	242·4	7·8
Newark–Retford District	115·9	3·9	7·8	6·7	3·8	3·1	0·7	3·7	3·2	123·7	4·0
Nottingham District	606·6	20·4	25·7	4·2	20·0	3·3	3·6	2·2	0·4	832·3	20·3
Leicester Sub-Region	623·5	20·9	32·0	5·1	18·0	2·9	3·8	10·4	1·7	655·5	21·0
Leicester District	454·1	15·2	28·5	6·5	14·5	3·2	2·6	12·6	2·8	483·6	15·5
Leicestershire–South Derbyshire Coalfield District	97·0	3·3	−0·2	−0·2	1·7	1·8	0·8	−2·4	−2·6	96·8	3·1
Market Harborough District	32·4	1·1	1·0	3·1	0·7	2·2	0·2	0·2	0·8	33·4	1·1
Hinckley District	40·0	1·3	1·7	4·1	1·2	3·0	0·2	0·2	0·5	41·7	1·3
Eastern Lowlands Sub-Region ..	52·5	11·8	15·9	4·5	10·8	3·0	2·0	3·3	0·9	368·4	11·8
Lincoln District	97·8	3·3	8·6	9·8	3·3	3·4	0·8	6·7	5·8	107·4	3·4
Kesteven District	98·8	3·3	2·6	2·6	2·7	2·7	0·8	−0·7	−0·7	101·2	3·2
Holland District	102·3	3·4	0·6	0·6	2·7	2·6	0·6	−2·7	−2·6	102·8	3·3
Melton–Oakham District	53·8	1·8	3·1	5·8	1·9	3·5	0·3	0·9	1·7	56·8	1·8
Northamptonshire Sub-Region ..	374·3	12·6	24·0	6·4	10·6	2·8	2·2	11·3	3·0	398·4	12·8
Northampton District	143·2	4·8	7·3	6·1	3·3	2·3	0·8	3·2	2·2	150·5	4·8
Kettering District	63·0	2·1	0·9	1·4	0·8	1·3	0·4	−0·3	−0·5	63·9	2·0
Wellingborough District	93·3	3·1	3·0	3·2	1·7	1·8	0·6	0·9	0·9	96·3	3·1
Corby District	26·2	0·9	10·0	38·1	3·5	13·3	0·2	6·3	24·0	35·2	1·2
Daventry–Brackley District	48·5	1·6	2·8	5·8	1·3	2·7	0·3	1·1	2·3	51·4	1·6

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* See footnote to Appendix 4a.

Source Registrar General's mid-year estimates of civilian population.

APPENDIX

7d Civilian Population Changes*: East Midlands Region, 1961–62

Area	1961		Change 1961–82							1982	
	Distribution		Total Change		By Births and Deaths		Estimated Net Gain from Armed Forces Rundown	Net Balance by Migration		Distribution	
	'000	%	'000	%	'000	%	'000	'000	%	'000	%
East Midlands Region	**3,121·6**	**100·0**	**40·1**	**1·3**	**22·0**	**0·7**	**1·9**	**16·2**	**0·5**	**3,161·7**	**100·0**
Nottinghamshire–Derbyshire Sub-Region	1,699·4	54·4	21·6	1·3	11·9	0·7	1·0	8·8	0·6	1,720·9	64·4
Chesterfield District	238·8	7·8	2·6	1·1	1·5	0·8	0·2	0·9	0·4	241·2	7·8
Erewash Valley District	74·9	2·4	0·3	0·4	0·2	0·3	0·0	0·1	0·1	75·3	2·4
Derby District	324·3	10·4	6·8	1·8	2·6	0·8	0·2	3·0	0·9	330·1	10·4
High Derbyshire District	83·2	2·0	0·3	0·5	0·1	0·2	0·0	0·2	0·3	63·5	2·0
Mansfield–Worksop District	242·4	7·8	2·8	1·2	1·9	0·8	0·2	0·7	0·3	246·3	7·8
Newark–Retford District	123·7	4·0	2·7	2·2	0·9	0·7	0·1	1·8	1·5	126·2	4·0
Nottingham District	632·3	20·3	7·0	1·1	4·8	0·8	0·4	1·8	0·3	639·4	20·2
Leicester Sub-Region	866·5	21·0	7·8	1·2	5·1	0·8	0·4	2·3	0·4	663·3	21·0
Leicester District	483·6	15·5	8·0	1·2	4·1	0·8	0·3	1·6	0·3	489·8	15·5
Leicestershire–South Derbyshire Coalfield District	96·8	3·1	1·0	1·0	0·8	0·6	0·1	0·3	0·3	97·8	3·1
Market Harborough District	33·4	1·1	0·5	1·5	0·2	0·6	0·0	0·3	0·9	33·9	1·1
Hinckley District	41·7	1·3	0·3	0·7	0·3	0·7	0·0	0·0	0·0	42·0	1·3
Eastern Lowlands Sub-Region	368·4	11·8	4·3	1·2	2·4	0·7	0·2	1·7	0·6	372·7	11·8
Lincoln District	107·4	3·4	1·5	1·4	0·9	0·8	0·1	0·5	0·6	108·9	3·4
Kesteven District	101·2	3·2	1·4	1·4	0·8	0·6	0·1	0·7	0·7	102·6	3·2
Holland District	102·9	3·3	0·7	0·7	0·6	0·5	0·1	0·1	0·1	103·6	3·3
Melton–Oakham District	58·9	1·8	0·8	1·4	0·4	0·7	0·0	0·4	0·7	57·7	1·8
Northamptonshire Sub-Region	398·4	12·8	8·4	1·6	2·7	0·7	0·3	3·4	0·9	404·8	12·8
Northampton District	150·5	4·8	1·7	1·1	0·9	0·6	0·1	0·7	0·5	152·2	4·8
Kettering District	83·9	2·0	0·2	0·3	0·2	0·3	0·0	0·0	0·0	84·1	2·0
Wellingborough District	96·3	3·1	1·2	1·2	0·5	0·5	0·1	0·6	0·6	97·6	3·1
Corby District	38·2	1·2	2·8	7·2	0·8	2·2	0·0	1·8	5·0	38·8	1·2
Daventry–Brackley District	51·4	1·6	0·7	1·4	0·4	0·8	0·0	0·3	0·6	62·0	1·6

* See footnote to Appendix 4a

Source Registrar General's mid-year estimates of civilian population

APPENDIX

7e

Civilian Population Changes*: East Midlands Region, 1962–65

Area	1962		Change 1962–65							1965	
	Distribution		Total Change		By Births and Deaths		Estimated Net Gain from Armed Forces Rundown	Net Balance by Migration		Distribution	
	'000	%	'000	%	'000	%	'000	'000	%	'000	%
East Midlands Region	**3,161·7**	**100·0**	**97·8**	**3·1**	**73·6**	**2·4**	**1·2**	**23·0**	**0·8**	**3,259·5**	**100·0**
Nottinghamshire–Derbyshire Sub-Region	1,720·9	54·4	48·2	2·8	39·7	2·3	0·7	7·8	0·5	1,759·1	54·3
Chesterfield District	241·2	7·8	8·8	2·8	5·4	2·3	0·1	1·4	0·8	248·0	7·6
Erewash Valley District	75·3	2·4	0·7	0·9	1·1	1·4	0·0	−0·5	−0·7	75·9	2·3
Derby District	330·1	10·4	8·4	2·5	7·1	2·2	0·1	1·1	0·4	338·5	10·4
High Derbyshire District	63·5	2·0	1·0	1·8	0·7	1·1	0·0	0·3	0·5	64·5	2·0
Mansfield–Worksop District	245·3	7·8	6·4	2·6	5·9	2·4	0·1	0·5	0·2	251·6	7·7
Newark–Retford District	125·2	4·0	8·2	4·9	3·2	2·6	0·1	2·8	2·3	132·8	4·1
Nottingham District	639·4	20·2	18·7	2·9	18·2	2·5	0·2	2·2	0·3	558·0	20·2
Leicester Sub-Region	563·3	21·0	21·2	3·2			0·2	4·8	0·7	684·5	21·0
Leicester District	489·6	15·6	15·5	3·2	12·9	2·4	0·2	2·4	0·5	505·1	15·6
Leicestershire–South Derbyshire					16·0	2·7					
Coalfield District	97·8	3·1	3·2	3·3	1·4	1·5	0·0	1·7	1·8	101·0	3·1
Market Harborough District	33·9	1·1	2·0	5·9	0·8	2·4	0·0	1·3	3·8	35·9	1·1
Hinckley District	42·0	1·3	0·5	1·2	0·9	2·2	0·0	−0·5	−1·2	42·5	1·3
Eastern Lowlands Sub-Region	372·7	11·8	11·2	3·0	7·9	2·1	0·2	3·1	0·8	383·9	11·8
Lincoln District	108·9	3·4	4·2	3·9	2·7	2·8	0·0	1·6	1·5	113·1	3·5
Kesteven District	102·6	3·2	2·8	2·5	2·1	2·1	0·0	0·5	0·5	105·2	3·2
Holland District	103·6	3·3	1·1	1·1	1·5	1·5	0·0	−0·5	−0·5	104·7	3·2
Melton–Oakham District	57·7	1·8	3·2	5·6	1·8	2·8	0·0	1·5	2·6	51·0	1·9
Northamptonshire Sub-Region	404·8	12·8	17·3	4·3	9·8	2·4	0·1	7·4	1·8	422·1	12·9
Northampton District	152·2	4·8	4·7	3·1	3·6	2·4	0·1	1·0	0·5	156·9	4·8
Kettering District	64·1	2·0	0·6	0·9	0·7	1·1	0·0	−0·2	−0·3	64·7	2·0
Wellingborough District	97·8	3·1	2·8	2·9	1·7	1·8	0·0	1·1	1·2	100·3	3·1
Corby District	38·8	1·2	5·8	14·9	2·7	7·0	0·0	3·1	8·0	44·6	1·4
Daventry–Brackley District	52·0	1·6	3·5	6·7	1·0	1·9	0·0	2·4	4·8	55·6	1·7

* See footnote to Appendix 4a.

Source Registrar General's mid-year estimates of civilian population.

APPENDIX

8

Civilian Population: Mean Annual Changes by Migration,* East Midlands Region, 1951–56, 1956–61, 1961–62, 1962–65

Area	1951–56		1956–61		1961–62		1962–65	
	'000	%	'000	%	'000	%	'000	%
East Midlands Region	2·4	0·08	7·2	0·23	16·2	0·52	7·7	0·24
Nottinghamshire–Derbyshire Sub-Region	1·8	0·11	2·3	0·14	8·8	0·51	2·6	0·15
Chesterfield District	2·1	1·01	1·2	0·54	0·9	0·38	0·5	0·19
Erewash Valley District	−0·3	−0·43	−0·6	−0·79	0·1	0·13	−0·2	−0·22
Derby District	0·0	0·00	1·2	0·39	3·0	0·93	0·4	0·11
High Derbyshire District	−0·1	−0·22	−0·1	−0·20	0·2	0·32	0·1	0·18
Mansfield–Worksop District	−0·5	−0·21	−0·6	−0·27	0·7	0·29	0·2	0·07
Newark–Retford District	0·5	+0·49	0·7	0·54	1·8	1·46	1·0	0·77
Nottingham District	0·2	0·03	0·4	0·07	1·8	0·29	0·7	0·11
Leicester Sub-Region	0·0	0·00	2·1	0·33	2·3	0·35	1·7	0·28
Leicester District	0·4	0·09	2·5	0·55	1·6	0·33	0·8	0·18
Leicestershire–South Derbyshire Coalfield District	−0·3	−0·33	−0·5	−0·49	0·3	0·31	0·8	0·58
Market Harborough District	—	—	0·1	0·12	0·3	0·90	0·4	1·27
Hinckley District	—	—	0·1	0·10	0·0	0·00	−0·2	−0·36
Eastern Lowlands Sub-Region	−0·7	−0·20	0·7	0·18	1·7	0·48	1·0	0·27
Lincoln District	−0·1	−0·10	1·2	1·16	0·8	0·47	0·5	0·49
Kesteven District	−0·2	−0·17	−0·1	−0·14	0·7	0·59	0·2	0·18
Holland District	−0·4	−0·38	−0·5	−0·53	0·1	0·10	−0·2	−0·14
Melton–Oakham District	—	—	0·2	0·33	0·4	0·70	0·8	0·87
Northamptonshire Sub-Region	1·3	0·36	2·3	0·60	3·4	0·85	2·5	0·61
Northampton District	0·1	0·09	0·5	0·45	0·7	0·47	0·3	0·22
Kettering District	−0·1	−0·10	−0·1	−0·10	0·0	0·00	−0·1	−0·10
Wellingborough District	−0·1	−0·09	0·2	0·19	0·6	0·52	0·4	0·34
Corby District	1·4	8·28	1·3	4·81	1·8	4·97	1·0	2·87
Daventry–Brackley District	−0·1	−0·12	0·2	0·45	0·3	0·58	0·8	1·54

* As the estimates used are for civilian population only, allowance has to be made for reduction in the size of the armed forces over the period. The estimates of net migration have been calculated by deducting from the total population change the estimates of natural change and the allowances made for gains from the armed forces.

Source Registrar General's mid-year estimates of civilian population.

APPENDIX

9

Home Population Projections: East Midlands Region, 1965–81

Thousands

Population Changes 1965–71–81

	1965–71	1971–81	1965–81
Natural Change	+186	+337	+505
Assuming no migration after 1965	+155	+268	+425
Consequential effects of migration assumptions	+13	+69	+60
Net Population Movement	+76	+149	+225
From remainder of England and Wales	+57	+129	+186
From other countries	+19	+20	+39
Total Change	+244	+486	+730
Population in 1965	3,272,000		
„ „ 1971	3,516,000		
„ „ 1981	4,002,000		

Age Structure, 1965, 1971 and 1981

Thousands

	1965	Changes 1965–71	1971	Changes 1971–81	1981
All Ages	3,272	+244	3,516	+486	4,002
Persons 0–14	766	+124	690	+195	1,065
Males 15–64	1,078	+34	1,112	+121	1,233
Females 15–59	958	+34	992	+115	1,107
Older persons	469	+53	522	+57	576

Note The figures are based on the estimated 'home' population in 1965 projected to 1971 and 1981 using the latest internal and external migration assumptions (Chapter 2 paras. 35–43). The projections correspond to the latest (1965) projections for England and Wales as a whole prepared by the Government Actuary's Department in consultation with the General Register Office (see *Registrar General's Quarterly Return for England and Wales,* No. 469, 1st Quarter 1966).

APPENDIX

10

Definition and Population of Nottinghamshire–Derbyshire Industrial Zone

	Population 1965
Nottingham district (part)	605,700
Nottingham CB	
Arnold UD	
Beeston & Stapleford UD	
Carlton UD	
Hucknell UD	
Ilkeston MB	
Long Eaton UD	
West Bridgford UD	
Basford RD (part)	
Derby district (part)	277,800
Derby CB	
Belper UD	
Belper RD (part)	
South East Derbyshire RD (part)	
Repton RD (part)	
Erewesh Valley district	75,900
Alfreton UD	
Eastwood UD	
Heanor UD	
Ripley UD	
Chesterfield district (part)	243,000
Chesterfield MB	
Bolsover UD	
Clay Cross UD	
Dronfield UD	
Staveley UD	
Chesterfield RD (part)	
Clowne RD	
Mansfield district (part)	237,000
Mansfield MB	
Kirkby-in-Ashfield UD	
Mansfield Woodhouse UD	
Sutton-in-Ashfield UD	
Warsop UD	
Worksop UD	
Blackwell RD	
Southwell RD (part)	
Total	1,439,400

Source Registrar General's mid-year estimates of civilian population 1965.

APPENDIX

11 Proportion of the Population of Great Britain Resident in the East Midlands, 1801–1965 and 1981

Year	Population of East Midlands Region			
	Enumerated		Civilian	
	'000	Percentage of the Population of Great Britain	'000	Percentage of the Population of Great Britain
1	2	3	4	5
1801	663	6·3	—	—
1811	751	6·3	—	—
1821	870	6·2	—	—
1831	966	6·1	—	—
1841	1,104	6·0	—	—
1851	1,193	5·7	—	—
1861	1,276	5·5	—	—
1871	1,391	5·3	—	—
1881	1,624	5·5	—	—
1891	1,814	5·5	—	—
	1,839	5·6	—	—
1901	2,090	5·6	—	—
1911	2,335	5·7	—	—
1921	2,425	5·7	—	—
1931	2,600	5·6	—	—
	2,531	5·7	—	—
1941	No Census	No Census	—	—
1951	2,642	5·7	2,892	6·0
1961	2,910	5·0	3,122	6·1
1965	—	—	3,260	6·2
1981 (est.)	—	—	3,990	6·5

Notes

1 The figures given in column 2 are the census enumerated populations. In column 4 the Registrar General's mid-year estimates for 1951, 1961 and 1965 are given for comparison; equivalent estimates are not available for earlier years.

2 Figures prior to 1891 are for aggregates of Ancient Counties, subsequent ones relate to areas as constituted in 1961.

3 Figures prior to 1931 include the whole of Derbyshire, subsequent ones exclude the High Peak parliamentary area.

APPENDIX

12

Population by Place of Birth: East Midlands and England and Wales, 1951–61

Birthplace	Enumerated in 1981				Change 1951–61			
	East Midlands		England and Wales		East Midlands		England and Wales	
	'000	% of total population	'000	% of total population	'000	%	'000	%
All Areas*	3,131·1	100·0	48,104·5	100·0	220·9	7·8	2,359·8	5·4
British Isles	**3,048·3**	**97·4**	**44,446·9**	**96·4**	**196·0**	**9·7**	**1,979·0**	**4·7**
England and Wales	2,958·3	94·4	42,800·9	92·8	177·2	8·4	1,577·7	3·8
Rest of British Isles	82·0	3·0	1,845·7	3·8	20·8	0·3	401·3	0·9
Commonwealth, colonies, etc.	25·9	0·8	659·8	1·4	14·9	135·5	315·1	82·8
Foreign countries, at sea and birthplace not stated	54·7	1·7	913·6	2·0	3·3	8·4	–0·7	–0·1

* Includes visitors.

Source Census 1951 and 1961.

APPENDIX

13a

Distribution of Estimated Total Numbers of Employees (employed and unemployed) at each mid-year, 1959–64[*]

Thousands

Standard Region	1959	1960	1961	1962	1963	1964
London and South Eastern	5,502	5,599	5,718	5,797	5,827	5,793
Eastern and Southern	2,313	2,398	2,444	2,519	2,562	2,644
South Western	1,228	1,246	1,275	1,294	1,316	1,333
Midland	2,167	2,231	2,253	2,294	2,299	2,328
North Midland	1,503	1,538	1,572	1,594	1,606	1,620
East and West Ridings	1,851	1,874	1,890	1,918	1,927	1,933
North Western	2,968	2,993	3,018	3,021	3,019	3,034
Northern	1,296	1,302	1,306	1,316	1,314	1,315
Scotland	2,166	2,172	2,172	2,202	2,193	2,202
Wales	958	989	975	982	990	997
Great Britain[†]	**21,950**	**22,333**	**22,627**	**22,944**	**23,063**	**23,209**

[*] Estimates derived from a sample of all employees insured under the National Insurance Schemes, including persons registered as wholly unemployed and analysed by the old standard regions for purposes of comparison.

[†] Includes civil servants working outside the United Kingdom.

Source Ministry of Labour.

APPENDIX

13*b* Distribution of Estimated Numbers of Male Employees (employed and unemployed) at each mid-year, 1959–64[*]

Thousands

Standard Region	1959	1960	1961	1962	1963	1964
London and South Eastern	3.428	3.472	3,548	3.602	3,825	3,694
Eastern and Southern	1,528	1.687	1,593	1,632	1,656	1,701
South Western	820	827	843	849	863	870
Midland	1,410	1,450	1,457	1.484	1,490	1,497
North Midland	1,011	1,024	1,040	1,057	1,063	1,070
East and West Ridings	1,215	1,221	1,225	1.245	1,254	1,254
North Western	1,855	1,884	1.878	1,887	1,892	1.891
Northern	902	899	898	900	892	883
Scotland	1,405	1,397	1,391	1,407	1.397	1.395
Wales	682	684	885	886	690	888
Great Britain[†]	**14,262**	**14,413**	**14,564**	**14,757**	**14,832**	**14,851**

[*] Estimates derived from a sample of all employees insured under the National Insurance Schemes, including persons registered as wholly unemployed and analysed by the old standard regions for purposes of comparison.

[†] Includes civil servants working outside the United Kingdom.

Source Ministry of Labour.

APPENDIX

13*c* Distribution of Estimated Numbers of Female Employees (employed and unemployed) at each mid-year, 1959–64*

Thousands

Standard Region	1959	1960	1961	1962	1963	1964
London and South Eastern	2,074	2,127	2,187	2,194	2,202	2,200
Eastern and Southern	787	831	851	687	906	944
South Western	405	419	432	445	453	462
Midland	747	781	796	809	809	831
North Midland	492	514	532	537	542	550
East and West Ridings	636	653	665	871	673	679
North Western	1,112	1,129	1,140	1,134	1,127	1,142
Northern	393	403	410	416	422	432
Scotland	783	776	780	794	796	806
Wales	276	285	289	296	300	310
Great Britain†	**7,888**	**7,920**	**8,064**	**8,187**	**8,231**	**8,358**

* Estimates derived from a sample of all employees insured under the National Insurance Schemes, including persons registered as wholly unemployed and analysed by the old standard regions for purposes of comparison.

† Includes civil servants working outside the United Kingdom.

Source Ministry of Labour.

APPENDIX

14

The Standard Industrial Classification

1. The Standard Industrial Classification (SIC) is used as a basis throughout this Study. It is the official classification of British industry which was first issued in 1948 to promote uniformity and comparability in official statistics of the United Kingdom. It covers all employment—extractive industry and services as well as manufacturing—and was prepared to conform with the organisation and structure of industry as it exists within the United Kingdom.

2. All industries are classified under 152 Minimum List Headings (MLH) which are grouped into the following 24 Orders:

Order	
I	Agriculture, Forestry, Fishing.
II	Mining and Quarrying.
III	Food, Drink and Tobacco.
IV	Chemicals and Allied Industries.
V	Metal Manufacture.
VI	Engineering and Electrical Goods.
VII	Shipbuilding and Marine Engineering.
VIII	Vehicles.
IX	Metal Goods not elsewhere specified.
X	Textiles.
XI	Leather, Leather Goods and Fur.
XII	Clothing and Footwear.
XIII	Bricks, Pottery, Glass, Cement, etc.
XIV	Timber, Furniture, etc.
XV	Paper, Printing and Publishing.
XVI	Other Manufacturing Industries.
XVII	Construction.
XVIII	Gas, Electricity and Water.
XIX	Transport and Communication.
XX	Distributive Trades.
XXI	Insurance, Banking and Finance.
XXII	Professional and Scientific Services.
XXIII	Miscellaneous Services.
XXIV	Public Administration and Defence.

One Order—Engineering and Electrical Goods—is shown below, with its constituent MLHs, by way of illustration.

Order VI—Engineering and Electrical Goods

331	Agricultural machinery (except tractors).
332	Metal-working machine tools.
333	Engineers' small tools and gauges.
334	Industrial engines.
335	Textile machinery and accessories.
336	Contractors' plant and quarrying machinery.
337	Mechanical handling equipment.
338	Office machinery.
339	Other machinery.
341	Industrial plant and steelwork.
342	Ordnance and small arms.
349	Other mechanical engineering not elsewhere specified.
351	Scientific, surgical and photographic instruments, etc.
352	Watches and clocks.
361	Electrical machinery.
362	Insulated wires and cables.
363	Telegraph and telephone apparatus.
364	Radio and other electronic apparatus.
365	Domestic electric appliances.
369	Other electrical goods.

3. The classification is based on industries and not on occupations. All persons (including administrative, technical, clerical and ancillary staffs) employed in a 'unit' of industry are included, irrespective of their occupations, in the figures of employment for the industry to which the 'unit' is classified. For the purposes of the classification the unit taken is the 'establishment'. An establishment is normally the whole of the premises, such as a farm, a mine, a factory or a shop at a particular address.

4. The descriptions 'industrial group' and 'industrial sectors' are used in the Study to cover a number of industries which can be a part or a whole of those covered by a particular MLH or Order or a grouping of MLHs or Orders. The precise meaning in each particular case should be clear from the associated text or table references.

5. Full details of the classification will be found in the Central Statistical Office publication, *Standard Industrial Classification* (*Revised 1958*), available from HMSO.

APPENDIX

15a

Employment by Four Broad Sectors of Industry: Total Employees, 1953, 1959 and 1963

Thousands

		South East England	South Western	West Midlands	East Midlands	Yorkshire and Humberside	North Western	Northern	Scotland	Wales	Great Britain
Extractive industries	1953	284·7	100·4	124·0	184·6	208·7	101·1	218·0	211·7	188·7	**1,612·1**
	1959 (a)	255·3	89·5	118·0	174·9	195·8	86·3	203·3	200·1	147·3	**1,468·6**
	1959 (b)	256·0	89·8	116·2	175·7	196·8	86·8	203·4	200·3	147·8	**1,471·4**
	1963	214·8	81·1	95·8	156·8	170·9	68·9	162·2	162·4	123·2	**1,236·1**
Manufacturing industries	1953	2.445·4	344·3	1,097·9	548·5	883·3	1,428·6	421·9	763·8	285·6	**8,219·9**
	1959 (a)	2,703·3	378·0	1,152·3	559·5	892·1	1.400·9	450·5	738·2	286·3	**6,561·1**
	1959 (b)	2,597·8	386·0	1,134·4	563·5	860·8	1.369·8	432·9	712·3	278·1	**6,303·7**
	1963	2,754·6	389·5	1,187·6	593·6	885·0	1,341·8	424·6	703·5	301·8	**6,561·6**
Construction	1953	489·4	92·6	98·6	72·9	102·3	154·4	78·1	155·6	61·9	**1,305·8**
	1959 (a)	520·1	96·7	113·1	82·0	105·4	156·3	80·1	153·8	58·2	**1,364·7**
	1959 (b)	523·0	98·4	118·5	76·6	107·9	156·2	82·7	150·8	85·8	**1,376·8**
	1963	569·5	105·2	137·3	67·8	127·9	174·7	88·3	175·9	73·8	**1,540·4**
Other industries and services	1953	4,025·3	592·0	678·9	438·7	725·4	1,200·0	507·2	950·1	408·4	**9,516·8**
	1959 (a)	4,318·5	837·3	744·2	473·6	776·8	1.255·9	530·7	980·4	432·7	**18,161·3**
	1959 (b)	4,420·3	848·3	758·5	481·6	805·8	1.287·8	545·8	1,009·1	435·0	**10,391·7**
	1963	4,799·0	716·8	839·4	826·4	885·2	1,352·4	584·6	1,057·1	462·5	**11,283·4**
Total All industries and services	1953	7,254·8	1,129·3	1,999·4	1,236·9	1,919·7	2.884·1	1,225·2	2,081·2	924·8	**28,655·2**
	1959 (a)	7,797·2	1,200·5	2,125·6	1,290·2	1.970·1	2,900·4	1,264·6	2.072·5	924·5	**21,546·6**
	1858 (b)	7.797·2	1.200·5	2,126·8	1,290·2	1.970·1	2,900·4	1.264·6	2.072·5	924·5	**21,545·6**
	1863	8,337·9	1,292·6	2,260·1	1,364·6	2,049·0	2.937·6	1,259·7	2,088·9	961·0	**22,661·4**

Note The estimates are all employees in employment, i.e. they exclude the unemployed. The figures for 1953 and 1959 (a) are based on the 1948 Standard Industrial Classification and those for 1959 (b) and 1963 on the 1958 version. In order to more nearly achieve comparability the figures for 1953 and 1959 (a) have been adjusted as far as possible.

Source Ministry of Labour.

APPENDIX

15*b* Employment by Four Broad Sectors of Industry: Males, 1953, 1959 and 1963*

Thousands

		South East England	South Western	West Midlands	East Midlands	Yorkshire and Humberside	North Western	Northern	Scotland	Wales	Great Britain
Extractive industries	1953	247·8	92·0	115·8	**173·1**	200·6	93·3	210·5	195·6	162·9	**1,491·3**
	1959 (a)	212·6	80·4	106·6	**183·7**	188·3	79·8	195·3	184·1	141·2	**1,352·0**
	1959 (b)	213·3	80·7	106·9	**164·5**	188·3	80·1	195·4	184·3	141·5	**1,355·0**
	1963	173·7	71·3	85·9	**145·2**	162·7	62·9	155·0	147·9	117·6	**1,122·2**
Manufacturing industries	1953	1,641·0	251·7	739·9	**339·2**	553·9	866·0	311·7	518·3	213·4	**5,445·1**
	1959 (a)	1,832·7	277·8	790·4	**356·7**	582·5	883·0	336·5	508·6	215·9	**5,784·1**
	1959 (b)	1,759·8	269·4	778·2	**351·6**	563·6	867·6	325·3	488·0	207·4	**5,610·8**
	1963	1,880·0	284·8	819·3	**378·5**	589·2	874·4	312·8	477·8	223·8	**5,840·8**
Construction	1953	469·0	90·5	94·8	**70·6**	99·4	149·3	78·1	148·8	60·7	**1,259·1**
	1959 (a)	494·4	92·6	107·3	**78·8**	100·8	149·1	76·7	144·7	56·4	**1,300·8**
	1959 (b)	496·4	92·9	110·5	**76·3**	102·8	149·1	79·5	142·6	63·8	**1,313·9**
	1963	535·9	100·9	129·7	**83·8**	121·8	166·1	84·2	166·7	71·3	**1,460·4**
Other industries and services	1953	2,309·9	335·3	366·5	**246·6**	418·0	697·0	274·9	505·9	241·4	**5,395·5**
	1959 (a)	2,407·9	352·0	387·1	**265·7**	427·2	701·4	275·6	504·7	246·4	**6,567·9**
	1959 (b)	2,478·1	359·8	395·8	**272·5**	444·1	716·6	283·8	527·2	247·2	**5,725·1**
	1963	2,668·2	389·4	429·3	**288·9**	466·9	737·3	299·7	641·1	257·3	**8,075·1**
Total All industries and services	1953	4,667·7	769·5	1,316·8	**829·4**	1,281·9	1,805·6	873·2	1,368·5	678·4	**13,591·0**
	1959 (a)	4,947·8	802·8	1,391·4	**864·9**	1,298·8	1,813·3	884·0	1,342·1	659·9	**14,004·8**
	1959 (b)	4,947·6	802·8	1,391·4	**864·9**	1,298·8	1,813·3	884·0	1,342·1	659·9	**14,004·8**
	1963	5,255·8	846·4	1,464·2	**896·4**	1,339·6	1,840·7	851·7	1,333·5	670·0	**14,498·3**

* See footnote to Appendix 15*a*.

Source Ministry of Labour.

APPENDIX

15c

Employment by Four Broad Sectors of Industry: Females, 1953, 1959 and 1963*

Thousands

		South East England	South Western	West Midlands	**East Midlands**	Yorkshire and Humberside	North Western	Northern	Scotland	Wales	**Great Britain**
Extractive industries	1953	46·9	8·4	8·4	**11·7**	8·1	7·8	7·6	16·2	6·8	**128·8**
	1959 (a)	42·7	9·1	8·4	**11·2**	7·5	6·6	8·0	16·0	6·1	**116·5**
	1959 (b)	42·7	9·1	9·3	**11·2**	7·6	6·6	8·0	16·0	6·1	**116·4**
	1963	41·1	9·8	8·8	**11·6**	8·2	6·0	7·2	14·5	5·6	**113·9**
Manufacturing industries	1953	804·4	92·6	368·0	**209·3**	319·4	562·6	110·2	245·5	72·2	**2,774·2**
	1959 (a)	870·6	100·2	361·9	**202·8**	309·6	517·9	114·0	229·6	70·4	**2,777·0**
	1959 (b)	838·1	96·6	356·2	**201·9**	297·2	602·3	107·6	224·3	68·7	**2,692·9**
	1963	874·8	104·7	368·3	**215·1**	295·6	467·2	111·8	225·7	77·7	**2,748·9**
Construction	1953	20·4	2·1	3·8	**2·4**	2·9	5·1	2·0	6·8	1·2	**48·7**
	1959 (a)	25·7	3·1	5·8	**3·2**	4·6	7·2	3·4	9·1	1·8	**63·9**
	1969 (b)	26·6	3·6	8·0	**3·2**	5·1	7·1	3·2	8·2	2·0	**64·9**
	1863	33·8	4·3	7·6	**4·0**	6·1	8·6	4·1	9·2	2·6	**88·8**
Other industries and services	1963	1,715·4	256·7	312·4	**184·1**	307·4	603·0	232·3	444·2	167·0	**4,122·5**
	1959 (a)	1,910·6	286·3	357·1	**208·1**	349·6	665·5	255·2	475·7	186·3	**4,583·4**
	1968 (b)	1,942·2	288·5	362·7	**209·0**	361·6	671·2	261·8	481·9	187·8	**4,666·6**
	1963	2,132·8	327·4	410·1	**237·6**	399·3	616·1	284·9	616·0	205·2	**5,128·3**
Total All industries and services	1953	2,587·1	369·8	682·6	**407·5**	837·8	1,078·6	352·0	712·7	246·2	**7,864·2**
	1959 (a)	2,649·8	397·7	734·2	**425·3**	871·3	1,087·1	380·6	730·4	264·6	**7,540·8**
	1959 (b)	2,649·8	397·7	734·2	**425·3**	671·3	1,087·1	380·6	730·4	264·6	**7,540·8**
	1963	3,082·1	446·2	796·9	**466·2**	709·4	1,096·8	408·0	766·4	291·0	**8,063·1**

* See footnote to Appendix 15a.

Source Ministry of Labour.

APPENDIX

16a Total Employment Percentage Changes by Four Broad Sectors of Industry: 1953, 1959 and 1963

		South East England	South Western	West Midlands	East Midlands	Yorkshire and Humberside	North Western	Northern	Scotland	Wales	Great Britain
Extractive industries	1953–59	−13	−11	−6	−6	−6	−15	−7	−5	−13	−9
	1959–63	−16	−10	−19	−11	−13	−20	−20	−19	−17	−16
	1953–63*	−27	−20	−23	−16	−16	−32	−26	−23	−27	−23
Manufacturing industries	1953–59	+11	+10	+5	+2	+1	−2	+7	−3½	—	+4
	1959–63	+5	+6	+4½	+7	+3	−2	−2	−1	+9	+3½
	1953–63*	+17	+17	+10	+6	+4	−4	+4½	−4½	+9	+6
Construction	1953–59	+6	+3½	+15	+12	+3	+1	+2½	−1	−6	+4½
	1959–63	+9	+9	+16	+10	+19	+12	+7	+17	+12	+12
	1953–63*	+16	+13	+35	+24	+22	+13	+10	+15	+5	+17
Other industries and services	1953–59	+7	+6	+10	+10	+7	+4½	+4½	+3	+6	+7
	1959–63	+9	+11	+11	+9	+7	+5	+7	+5	+6	+6
	1953–63*	+17	+19	+21	+20	+15	+10	+12	+6	+13	+16
Total All industries and services	1953–59	+7	+6	+6	+4½	+2½	+½	+3	−½	—	+4½
	1959–63	+7	+6	+6	+6	+4	+1½	−½	+1½	+4	+4½
	1953–63*	+15	+14	+13	+10	+7	+2	+3	+1	+4	+9

* Percentage changes for 1953–63 have been calculated on a linked index basis.
Source Ministry of Labour.

APPENDIX

16*b*

Male Employment Percentage Changes by Four Broad Sectors of Industry: 1953, 1959 and 1963

		South East England	South Western	West Midlands	East Midlands	Yorkshire and Humberside	North Western	Northern	Scotland	Wales	**Great Britain**
Extractive industries	1953–59	−14	−13	−8	−5	−6	−14	−7	−6	−13	**−9**
	1959–63	−19	−12	−20	−12	−14	−21	−21	−20	−17	**−17**
	1953–63*	−30	−23	−26	−16	−19	−33	−26	−24	−28	**−25**
Manufacturing industries	1953–59	+12	+10	+7	+6	+3½	+2	+6	−2	+1	**+6**
	1959–63	+7	+6	+5	+8	+4½	+1	−4	−2	+6	**+4**
	1953–63*	+19	+17	+12	+13	+6	+3	+4	−4	+9	**+11**
Construction	1953–59	+5	+2½	+13	+12	+1½	—	+1	−3	−7	**+3½**
	1959–63	+6	+9	+17	+10	+16	+11	+6	+17	+12	**+11**
	1953–63*	+14	+11	+33	+23	+20	+11	+7	+14	+4	**+15**
Other industries and services	1953–59	+4	+5	+6	+8	+2	+½	—	—	+2	**+3**
	1959–63	+8	+8	+8	+6	+5	+3	+6	+2½	+4	**+6**
	1953–63*	+12	+14	+15	+14	+7	+3½	+6	+2½	+6	**+9**
Total All industries and services	1953–59	+6	+4½	+6	+4½	+1½	+½	+1	−2	−2½	**+3**
	1959–63	+6	+5	+5	+3½	+3	+1½	−3½	−½	+1½	**+3½**
	1953–63*	+13	+10	+11	+6	+4½	+2	−2½	−2½	−1	**+7**

* Percentage changes for 1953–63 have been calculated on a linked index basis.

Source Ministry of Labour.

APPENDIX

16c Female Employment Percentage Changes by Four Broad Sectors of Industry: 1953, 1959 and 1963

		South East England	South Western	West Midlands	East Midlands	Yorkshire and Humberside	North Western	Northern	Scotland	Wales	Great Britain
Extractive industries	1953–59	−9	+8	+12	−4½	−7	−17	+7	−1	+5	−3½
	1959–63	−3½	+8	+8	+3½	+9	−8	−10	−9	−8	−2
	1953–63*	−12	+17	+19	−1	+1	−23	−4	−10	−3½	−6
Manufacturing industries	1953–58	+8	+8	+1	−3	−3	−8	+3½	−6	−2½	—
	1959–63	+4½	+8	+3½	+7	−½	−7	+4	+½	+13	+2
	1953–63*	+13	+17	+4½	+3	−3½	−14	+7	−6	+10	+2
Construction	1953–69	+26	†	†	†	†	+41	†	+34	†	+37
	1959–63	+26	†	+27	†	+20	+21	†	+12	†	+23
	1953–63*	+59	†	†	†	†	+71	†	+50	†	+69
Other industries and services	1953–59	+11	+11	+14	+13	+14	+10	+10	+7	+12	+11
	1959–63	+10	+13	+13	+14	+10	+8	+9	+7	+9	+10
	1953–63*	+22	+26	+29	+28	+28	+19	+20	+15	+22	+22
Total All industries and services	1953–59	+10	+11	+8	+4½	+5	+1	+8	+2½	+7	+7
	1959–63	+8	+12	+8	+10	+8	+1	+7	+5	+10	+7
	1953–63*	+19	+24	+17	+15	+11	+1½	+18	+7	+18	+14

* Percentage changes for 1953–63 have been calculated on a linked index basis.
† Figures cannot be calculated within acceptable margins of error.
Source Ministry of Labour.

APPENDIX

17a

Total Annual Employment Percentage Changes by Four Broad Sectors of Industry: 1953, 1959 and 1963

		South East England	South Western	West Midlands	East Midlands	Yorkshire and Humberside	North Western	Northern	Scotland	Wales	Great Britain
Extractive industries	1953–59	−2·4	−1·9	−1·1	−0·9	−1·1	−2·8	−1·1	−0·9	−2·2	−1·5
	1959–63	−4·3	−2·5	−4·7	−2·8	−3·3	−5·5	−5·5	−5·1	−4·4	−4·3
	1953–63	−3·1	−2·1	−2·6	−1·7	−2·0	−3·8	−2·9	−2·8	−3·1	−2·6
Manufacturing industries	1953–59	+1·7	+1·8	+0·8	+0·3	+0·2	−0·3	+1·1	−0·6	0·0	+0·7
	1959–63	+1·5	+1·8	+1·2	+1·8	+0·7	−0·5	−0·5	−0·3	+2·2	+0·8
	1953–63	+1·6	+1·6	+0·9	+0·9	+0·4	−0·4	+0·5	−0·5	+0·9	+0·7
Construction	1953–59	+1·0	+0·5	+2·3	+2·0	+0·5	+0·2	+0·4	−0·2	−1·0	+0·7
	1959–63	+2·1	+2·2	+4·2	+2·5	+4·3	+2·8	+1·7	+3·9	+2·9	+2·8
	1953–63	+1·5	+1·2	+3·1	+2·2	+2·0	+1·2	+0·9	+1·4	+0·5	+1·6
Other industries and services	1953–59	+1·2	+1·2	+1·5	+1·6	+1·2	+0·8	+0·8	+0·5	+1·0	+1·1
	1959–63	+2·1	+2·5	+2·8	+2·2	+1·8	+1·2	+1·7	+1·2	+1·5	+1·9
	1953–63	+1·5	+1·8	+1·9	+1·9	+1·4	+1·0	+1·1	+0·8	+1·2	+1·4
Total All industries and services	1953–59	+1·2	+1·0	+1·0	+0·7	+0·4	+0·1	+0·5	−0·1	0·0	+0·7
	1959–63	+1·7	+1·9	+1·5	+1·4	+1·0	+0·3	−0·1	+0·3	+1·0	+1·2
	1953–63	+1·4	+1·4	+1·2	+1·0	+0·7	+0·2	+0·3	+0·1	+0·4	+0·9

Source Ministry of Labour.

APPENDIX

17b

Male Annual Employment Percentage Changes by Four Broad Sectors of Industry: 1953, 1959 and 1963

		South East England	South Western	West Midlands	East Midlands	Yorkshire and Humberside	North Western	Northern	Scotland	Wales	Great Britain
Extractive industries	1953–59	−2·5	−2·2	−1·3	−0·8	−1·0	−2·6	−1·2	−1·0	−2·4	−1·8
	1959–63	−5·0	−3·0	−5·3	−3·1	−3·6	−5·9	−5·6	−5·4	−4·5	−4·8
	1953–63	−3·5	−2·6	−3·0	−1·8	−2·1	−3·9	−3·0	−2·8	−3·2	−2·8
Manufacturing industries	1953–59	+1·9	+1·7	+1·1	+0·8	+0·5	+0·3	+1·3	−0·3	+0·2	+1·0
	1959–63	+1·7	+1·4	+1·3	+1·9	+1·1	+0·2	−1·0	−0·5	+1·9	+1·6
	1953–63	+1·8	+1·6	+1·2	+1·2	+0·8	+0·3	+0·4	−0·4	+0·9	+1·0
Construction	1953–59	+0·9	+0·4	+2·1	+1·9	+0·2	0·0	+0·1	−0·5	−1·2	+0·5
	1959–63	+1·9	+2·1	+4·1	+2·4	+4·3	+2·7	+1·4	+4·0	+2·8	+2·7
	1953–63	+1·3	+1·1	+2·9	+2·1	+1·9	+1·1	+0·7	+1·3	+0·4	+1·4
Other industries and services	1953–59	+0·7	+0·6	+0·9	+1·2	+0·4	+0·1	0·0	0·0	+0·3	+0·5
	1959–63	+1·8	+2·0	+2·1	+1·5	+1·2	+0·7	+1·4	+0·6	+1·0	+1·5
	1953–63	+1·2	+1·3	+1·4	+1·3	+0·7	+0·3	+0·6	+0·2	+0·6	+0·9
Total All industries and services	1953–59	+1·0	+0·7	+0·9	+0·7	+0·2	+0·1	+0·2	−0·3	−0·5	+0·8
	1959–63	+1·5	+1·3	+1·3	+0·9	+0·8	+0·4	−0·9	−0·2	+0·4	+0·9
	1953–63	+1·2	+1·2	+1·1	+0·8	+0·4	+0·2	−0·3	−0·3	−0·1	+0·8

Source Ministry of Labour.

17*c* Female Annual Employment Percentage Changes by Four Broad Sectors of Industry: 1953, 1959 and 1963

		South East England	South Western	West Midlands	East Midlands	Yorkshire and Humberside	North Western	Northern	Scotland	Wales	Great Britain
Extractive industries	1853–59	−1·5	*	*	−0·7	*	*	*	−0·2	*	−0·6
	1959–63	−1·0	*	*	+0·9	*	*	*	−2·4	*	−0·5
	1953–63	−1·3	*	*	−0·1	*	*	*	−1·1	*	−0·6
Manufacturing industries	1953–59	+1·3	+1·3	+0·2	−0·5	−0·5	−1·4	+0·6	−1·1	−0·4	0·0
	1959–63	+1·1	+2·0	+0·8	+1·6	−0·1	−1·8	+1·0	+0·1	+3·1	+0·4
	1953–63	+1·2	+1·5	+0·4	+0·3	−0·4	−1·5	+0·7	−0·6	+1·0	+0·2
Construction	1953–59	+3·9	*	*	*	*	*	*	*	*	+5·4
	1959–63	+5·0	*	*	*	*	*	*	*	*	+5·4
	1953–63	+4·8	*	*	*	*	*	*	*	*	+5·4
Other industries and services	1953–59	+1·8	+1·8	+2·3	+2·1	+2·2	+1·7	+1·6	+1·1	+1·8	+1·8
	1959–63	+2·4	+3·2	+3·1	+3·2	+2·5	+1·9	+2·1	+1·7	+2·2	+2·4
	1953–63	+2·0	+2·3	+2·6	+2·5	+2·3	+1·8	+1·8	+1·4	+2·0	+2·0
Total All industries and services	1953–59	+1·8	+1·7	+1·2	+0·7	+0·9	+0·1	+1·3	+0·4	+1·2	+1·1
	1959–63	+2·0	+2·9	+2·0	+2·4	+1·4	+0·2	+1·8	+1·2	+2·4	+1·7
	1953–63	+1·8	+2·2	+1·5	+1·4	+1·1	+0·2	+1·5	+0·7	+1·7	+1·3

* Because the estimated number of employees is small, no meaningful growth rate can be calculated.

Source Ministry of Labour.

APPENDIX

18

Proportion of Employees in 1963 in Each Broad Industrial Group

	South East England	South Western	West Midlands	East Midlands	Yorkshire and Humberside	North Western	Northern	Scotland	Wales	Great Britain
Total, Males and Females										
Extractive	2·8	6·3	4·2	11·5	8·3	2·3	12·9	7·7	12·8	5·5
Manufacturing	33·0	30·1	52·6	43·5	43·2	45·7	33·7	33·5	31·4	38·0
Construction	6·6	8·1	6·1	6·4	6·3	6·0	7·0	6·4	7·7	6·8
Other industries and services	57·6	66·5	37·1	38·6	42·2	46·0	46·4	50·4	46·1	49·7
Males										
Extractive	3·3	8·4	5·8	16·2	12·1	3·4	18·2	11·1	17·6	7·7
Manufacturing	35·8	33·7	55·9	42·2	44·0	47·5	36·7	35·6	33·4	40·3
Construction	10·2	11·9	8·9	9·4	9·1	9·0	9·9	12·5	10·6	10·1
Other industries and services	50·7	46·0	29·3	32·2	34·8	40·1	35·2	40·6	38·4	41·9
Females										
Extractive	1·3	2·2	1·2	2·5	1·1	0·5	1·8	1·9	1·9	1·4
Manufacturing	26·4	23·5	46·3	45·9	41·7	42·6	27·4	29·5	26·7	34·0
Construction	1·1	0·9	1·0	0·9	0·9	0·8	1·0	1·2	0·8	1·0
Other industries and services	69·2	73·4	81·5	50·7	56·3	56·1	69·8	67·4	70·8	63·6

Source Ministry of Labour.

APPENDIX

19*a* Total Number of Employees in Employment by Industrial Orders: 1953, 1959 and 1963

Thousands

Order	1953*†		1959 (a)*†		1959 (b)*‡		1963*‡	
	East Midlands	Great Britain	East Midlands	Great Britain	East Midlands	Great Britain	East Midlands	Great Britain
Agriculture, forestry and fishing	58·1	736·5	48·3	641·1	48·0	641·1	42·3	553·7
Mining and quarrying	128·7	878·8	126·6	827·4	127·7	830·3	114·5	682·4
Total extractive industries . .	**184·8**	1,812·1	**174·9**	1,458·5	**175·7**	1,471·4	**156·8**	1,236·1
Food, drink and tobacco	38·8	805·2	44·1	857·4	40·0	780·5	44·8	804·9
Chemicals and allied industries ..	17·9	486·6	17·9	536·5	18·2	515·3	20·8	511·2
Metal manufacture ..	37·5	595·8	38·1	502·5	38·8	572·8	43·1	691·4
Engineering, electrical goods and metal goods	117·2	2,181·0	128·3	2,427·9	131·7	2,411·5	150·9	2,570·9
Shipbuilding and marine engineering	§	285·3	§	268·2	§	266·4	§	211·2
Vehicles	49·7	820·8	58·3	906·4	54·2	859·8	54·3	866·8
Textiles	123·0	963·7	110·7	840·1	109·7	839·7	117·8	778·4
Leather, leather goods and fur.. .	5·4	72·2	4·8	63·8	5·1	52·8	4·8	51·8
Clothing and footwear	94·0	826·8	86·8	578·3	85·7	546·0	81·4	542·8
Bricks, pottery, glass, cement, etc.	20·5	332·9	19·5	324·0	19·8	323·0	22·2	337·0
Timber, furniture, etc.	14·0	290·8	15·8	287·7	18·3	279·4	15·2	260·8
Paper, printing and publishing	20·8	505·5	22·8	581·3	22·5	558·7	23·9	820·5
Other manufacturing industries	9·8	252·8	12·2	285·0	12·3	277·8	14·0	306·8
Total manufacturing industries .. .	**548·5**	8,219·3	**559·5**	8,561·1	**553·5**	8,303·7	**593·6**	8,581·5
Construction .	**72·9**	1,305·8	**82·0**	1,364·7	**79·5**	1,378·8	**87·8**	1,540·4
Gas, electricity and water	18·9	372·6	19·4	374·2	19·5	374·3	22·3	397·1
Transport and communication . ..	73·8	1,738·2	74·0	1,688·2	74·8	1,683·2	72·1	1,682·7
Distributive trades	107·5	2,219·3	129·8	2,541·0	135·9	2,694·3	149·5	2,903·5
Insurance, banking and finance	13·2	443·5	15·1	527·4	18·3	527·4	19·0	602·5
Professional and scientific services . .	75·0	1,524·9	88·0	1,823·7	100·1	1,915·8	114·7	2,214·3
Miscellaneous services	78·5	1,897·9	80·8	1,893·8	74·7	1,955·1	85·3	2,064·2
Public administration	56·0	1,321·5	88·7	1,305·0	59·2	1,240·6	83·5	1,339·1
Total service industries (excluding construction) .	**430·7**	9,518·0	**473·8**	10,151·3	**481·5**	10,391·7	**526·4**	11,203·4
Total all industries and services .	**1,236·9**	20,855·2	**1,290·2**	21,545·6	**1,290·2**	21,545·8	**1,384·8**	22,581·4

* End-May figures for 1953, 1959 (a) and 1959 (b), mid-June for 1963.

† On 1948 Standard Industrial Classification.

‡ On 1958 Standard Industrial Classification.

§ The figure is too small to be given within acceptable margins of error.

Source Ministry of Labour.

APPENDIX

19*b* Male Employees in Employment by Industrial Orders: 1953, 1959 and 1963

Thousands

Order	1953*†		1959 (a)*†		1959 (b)*‡		1963*‡	
	East Midlands	Great Britain	East Midlands	Great Britain	East Midlands	Great Britain	East Midlands	Great Britain
Agriculture, forestry and fishing	48·8	634·6	40·5	548·8	40·2	548·8	34·1	461·9
Mining and quarrying	124·3	858·7	123·2	803·2	124·3	806·2	111·1	660·3
Total extractive industries	173·1	1,491·3	153·7	1,352·0	154·5	1,355·0	145·2	1,122·2
Food, drink and tobacco	23·8	459·9	25·2	487·5	22·9	442·1	26·2	461·0
Chemicals and allied industries	11·3	348·8	12·0	389·7	12·1	373·2	13·5	371·1
Metal manufacture	34·4	515·4	35·1	520·3	35·3	502·8	39·1	518·7
Engineering, electrical goods and metal goods	91·7	1,586·8	102·1	1,765·8	104·9	1,734·3	118·0	1,916·3
Shipbuilding and marine engineering	§	272·2	§	255·2	§	253·5	§	199·8
Vehicles	42·8	696·8	60·8	774·9	46·8	744·1	47·5	750·3
Textiles	46·9	402·7	43·0	372·6	42·7	372·7	46·7	362·6
Leather, leather goods and fur	4·2	43·2	3·7	37·0	3·9	36·4	3·6	35·5
Clothing and footwear	38·7	168·4	35·8	156·6	33·8	148·0	30·0	145·2
Bricks, pottery, glass, cement, etc.	16·8	250·8	15·9	247·4	16·1	246·4	18·3	260·4
Timber, furniture, etc.	11·1	232·2	11·7	226·2	11·7	221·6	12·0	225·3
Paper, printing and publishing	11·9	322·7	13·5	378·3	13·3	368·2	14·4	407·7
Other manufacturing industries	5·7	147·2	7·7	173·6	7·7	157·7	8·8	186·8
Total manufacturing industries	339·2	5,445·1	356·7	5,784·1	351·6	5,610·8	378·5	5,840·6
Construction	70·5	1,259·1	78·8	1,300·8	76·3	1,313·9	83·8	1,460·4
Gas, electricity and water	17·0	334·7	17·4	332·1	17·6	332·1	19·9	348·8
Transport and communications	62·2	1,494·9	63·0	1,441·8	63·7	1,438·8	61·0	1,428·8
Distributive trades	55·8	1,113·5	68·0	1,232·2	70·1	1,307·8	74·7	1,374·2
Insurance, banking and finance	8·3	266·7	9·0	303·2	9·6	303·2	10·4	331·4
Professional and scientific services	25·9	537·1	30·8	629·8	33·4	648·8	37·6	749·2
Miscellaneous services	26·8	683·5	30·7	695·8	32·0	791·3	38·1	884·1
Public administration	50·6	965·1	48·8	933·0	46·1	903·1	47·2	958·6
Total service industries (excluding construction)	248·6	5,395·5	265·7	5,567·9	272·5	5,725·1	288·9	6,075·1
Total all industries and services	829·4	13,591·0	864·9	14,004·8	864·9	14,004·8	896·4	14,498·3

* End-May figures for 1953, 1959 (a) and 1959 (b), mid-June for 1963

† On 1948 Standard Industrial Classification.

‡ On 1958 Standard Industrial Classification.

§ The figure is too small to be given within acceptable margins of error.

Source Ministry of Labour.

APPENDIX

19c

Female Employees in Employment by Industrial Orders: 1953, 1959 and 1963

Thousands

Order	1953*†		1959 (a)*†		1959 (b)*‡		1963*‡	
	East Midlands	Great Britain	East Midlands	Great Britain	East Midlands	Great Britain	East Midlands	Great Britain
Agriculture, forestry and fishing	9·3	100·9	7·8	92·3	7·8	92·3	8·2	91·8
Mining and quarrying	2·4	19·9	3·4	24·2	3·4	24·1	3·4	22·1
Total extractive industries	11·7	120·8	11·2	116·5	11·2	116·4	11·8	113·9
Food, drink and tobacco	15·2	345·3	18·8	369·9	17·1	338·4	18·6	343·9
Chemicals and allied industries	6·6	139·7	5·9	148·8	6·1	142·1	7·3	140·1
Metal manufacture	3·1	80·4	3·0	82·2	3·3	70·2	4·0	72·7
Engineering, electrical goods and metal goods	25·5	594·2	28·2	662·1	28·8	877·2	32·9	754·8
Shipbuilding and marine engineering	§	13·1	§	13·0	§	12·9	§	11·4
Vehicles	6·8	124·0	7·7	131·5	7·4	115·7	6·8	115·8
Textiles	76·1	581·0	87·7	487·5	67·0	467·0	71·1	413·8
Leather, leather goods and fur.	1·2	29·0	1·1	25·8	1·2	26·4	1·2	26·1
Clothing and footwear	55·3	458·4	61·0	422·7	61·9	398·0	61·4	397·6
Bricks, pottery, glass, cement, etc.	3·7	82·1	3·6	76·8	3·7	78·6	3·9	76·8
Timber, furniture, etc.	2·9	58·8	3·9	81·5	3·8	57·8	3·2	55·5
Paper, printing and publishing	8·7	182·8	9·3	203·0	9·2	200·5	9·5	212·9
Other manufacturing industries	4·1	105·6	4·5	111·4	4·6	110·1	5·2	120·0
Total manufacturing industries	209·3	2,774·2	202·8	2,777·0	201·9	2,692·9	215·1	2,740·9
Construction	2·4	46·7	3·2	83·9	3·2	64·9	4·0	80·0
Gas, electricity and water	1·9	37·9	2·0	42·1	1·9	42·2	2·4	48·3
Transport and communications	11·4	243·3	11·0	244·4	11·1	244·4	11·1	253·9
Distributive trades	51·7	1,105·8	83·8	1,308·8	68·8	1,386·5	74·8	1,529·3
Insurance, banking and finance	4·9	176·8	6·1	224·2	6·7	224·2	8·6	271·1
Professional and scientific services	49·1	987·8	57·2	1,193·9	68·7	1,268·0	77·1	1,465·1
Miscellaneous services	49·7	1,214·4	50·1	1,198·0	42·7	1,163·8	47·2	1,180·1
Public administration	16·4	356·5	17·9	372·0	13·1	337·5	16·3	380·5
Total service industries (excluding construction)	184·1	4,122·5	206·1	4,583·4	209·0	4,668·8	237·6	5,128·3
Total all industries and services ..	407·5	7,064·2	425·3	7,540·8	425·3	7,540·8	488·2	8,063·1

* End-May figures for 1953, 1959 (a) and 1959 (b), mid-June for 1963.
† On 1948 Standard Industrial Classification
‡ On 1958 Standard Industrial Classification.
§ The figure is too small to be given within acceptable margins of error.
Source Ministry of Labour.

APPENDIX

20a Employment by Industrial Orders: Total Percentage Changes, 1953–63

Order	1953–59		1959–63		1953–63*	
	East Midlands	Great Britain	East Midlands	Great Britain	East Midlands	Great Britain
Agriculture, forestry and fishing	−17	−13	−12	−14	−27	−25
Mining and quarrying	—	−8	−10	−18	−10	−22
Total extractive industries	−5	−9	−11	−16	−16	−23
Food, drink and tobacco	+14	+6	+12	+3	+27	+10
Chemicals and allied industries	—	+11	+14	−1	+14	+10
Metal manufacture	+1½	+1	+12	+3	+13	+4½
Engineering, electrical goods and metal goods	+9	+11	+15	+11	+25	+23
Shipbuilding and marine engineering	†	−6	†	−21	†	−25
Vehicles	+17	+10	—	+½	+18	+11
Textiles	−10	−13	+7	−8	−3½	−19
Leather, leather goods and fur	†	−12	†	−2	†	−13
Clothing and footwear	−8	−6	−5	−½	−12	−8
Bricks, pottery, glass, cement, etc.	−5	−2½	+12	+4½	+7	+1½
Timber, furniture, etc.	+11	−1	−½	+½	+11	−½
Paper, printing and publishing	+11	+15	+6	+9	+16	+25
Other manufacturing industries	+24	+13	+14	+10	+42	+24
Total manufacturing industries	+2	+4	+7	+3½	+9	+8
Construction	+12	+4½	+10	+12	+24	+17
Gas, electricity and water	+2½	+½	+14	+6	+17	+7
Transport and communication	+½	−3	−3½	—	−3	−3
Distributive trades	+21	+14	+9	+8	+32	+23
Insurance, banking and finance	+14	+19	+17	+14	+33	+36
Professional and scientific services	+17	+20	+15	+15	+34	+38
Miscellaneous services	+6	—	+14	+8	+21	+5
Public administration	+1	−1½	+7	+8	+8	+7
Total service industries (excluding construction)	+10	+7	+8	+8	+20	+15
Total all industries and services	+4½	+4½	+6	+4½	+10	+9

* Percentage changes for 1953–63 have been calculated on a linked index basis.

† The figure cannot be calculated within acceptable margins of error.

Source Ministry of Labour.

APPENDIX

20b Employment by Industrial Orders: Male Percentage Changes, 1953–63

Order	1953–59		1959–63		1953–63*	
	East Midlands	Great Britain	East Midlands	Great Britain	East Midlands	Great Britain
Agriculture, forestry and fishing	−17	−14	−15	−16	−30	−27
Mining and quarrying	−1	−6	−11	−18	−11	−23
Total extractive industries	−5	−9	−12	−17	−16	−25
Food, drink and tobacco	+7	+6	+14	+4½	+22	+11
Chemicals and allied industries	+8	+12	+12	−½	+19	+12
Metal manufacture	+2	+1	+11	+3	+13	+4
Engineering, electrical goods and metal goods	+11	+11	+12	+10	+25	+23
Shipbuilding and marine engineering	†	−6	†	−21	†	−26
Vehicles	+18	+11	+1½	+1	+20	+12
Textiles	−8	−7	+9	−2½	+½	−10
Leather, leather goods and fur	†	−14	†	−2½	†	−17
Clothing and footwear	−7	−8	−11	−2	−18	−9
Bricks, pottery, glass, cement, etc.	−5	−1½	+14	+6	+8	+4
Timber, furniture, etc.	+5	−2½	+2½	+1½	+8	−1
Paper, printing and publishing	+13	+17	+8	+11	+23	+30
Other manufacturing industries	+35	+16	+14	+11	+54	+31
Total manufacturing industries	+5	+6	+8	+4	+13	+11
Construction	+12	+3½	+10	+11	+23	+15
Gas, electricity and water	+2½	−1	+13	+5	+15	+4
Transport and communications	+1½	−3½	−4	−½	−3	−4
Distributive trades	+18	+11	+7	+5	+26	+16
Insurance, banking and finance	+8	+14	+8	+9	+17	+24
Professional and scientific services	+19	+17	+13	+15	+34	+35
Miscellaneous services	+15	+2	+19	+12	+36	+14
Public administration	−3½	−3½	+2½	+6	−1½	+2½
Total service industries (excluding construction)	+8	+3	+8	+6	+14	+9
Total all industries and services	+4½	+3	+3½	+3½	+8	+7

* Percentage changes for 1953–63 have been calculated on a linked index basis.

† The figure cannot be calculated within acceptable margins of error.

Source Ministry of Labour.

APPENDIX

20c Employment by Industrial Orders: Female Percentage Changes, 1953–63

Order	1953–59		1959–63		1953–63*	
	East Midlands	Great Britain	East Midlands	Great Britain	East Midlands	Great Britain
Agriculture, forestry and fishing	−16	−9	+5	+½	−12	−9
Mining and quarrying	†	+22	†	−8	†	+12
Total extractive industries	−4½	−3½	+3½	−2	−1	−6
Food, drink and tobacco	+24	+7	+9	+1½	+35	+9
Chemicals and allied industries	−11	+7	+20	−1½	+7	+5
Metal manufacture	†	+2	†	+3½	†	+6
Engineering, electrical goods and metal goods	+2½	+11	+23	+11	+26	+24
Shipbuilding and marine engineering	†	−1	†	−12	†	−12
Vehicles	+12	+6	−8	—	+2½	+6
Textiles	−11	−17	+8	−11	−6	−28
Leather, leather goods and fur	†	−8	†	−1	†	−9
Clothing and footwear	−8	−8	−1	—	−9	−8
Bricks, pottery, glass, cement, etc.	†	−7	†	—	†	−7
Timber, furniture, etc.	†	+5	†	−4	†	+1
Paper, printing and publishing	+7	+11	+3½	+6	+10	+18
Other manufacturing industries	†	+5	†	+9	†	+15
Total manufacturing industries	−3	—	+7	+2	+3	+2
Construction	†	+37	†	+23	†	+89
Gas, electricity and water	†	+11	†	+14	†	+27
Transport and communications	−3½	+½	—	+4	−3½	+4½
Distributive trades	+23	+18	+12	+10	+38	+31
Insurance, banking and finance	+24	+27	+28	+21	+60	+53
Professional and scientific services	+16	+21	+16	+16	+35	+40
Miscellaneous services	+1	−1½	+11	+1½	+11	—
Public administration	+18	+4½	+24	+13	+45	+18
Total service industries (excluding construction)	+13	+11	+14	+10	+28	+22
Total all industries and services	+4½	+7	+10	+7	+15	+14

* Percentage changes for 1953–63 have been calculated on a linked index basis.

† The figure cannot be calculated within acceptable margins of error.

Source Ministry of Labour.

APPENDIX

21a Annual Total Employment Percentage Changes by Industrial Orders: 1953–63

Order	1953–59		1959–63		1953–63	
	East Midlands	Great Britain	**East Midlands**	Great Britain	**East Midlands**	Great Britain
Agriculture, forestry and fishing	−3·0	−2·3	−3·1	−3·5	−3·1	−2·8
Mining and quarrying	—	−1·0	−2·7	−4·6	−1·1	−2·5
Total extractive industries	−0·9	−1·5	−2·8	−4·3	−1·7	−2·6
Food, drink and tobacco	+2·2	+1·1	+2·9	+0·8	+2·4	+0·9
Chemicals and allied industries	—	+1·7	+3·4	−0·2	+1·3	+0·9
Metal manufacture	+0·3	+0·2	+2·8	+0·6	+1·3	+0·4
Engineering, electrical goods and metal goods	+1·5	+1·6	+3·5	+2·6	+2·3	+2·1
Shipbuilding and marine engineering*	—	—	—	—	—	—
Vehicles	+2·7	+1·7	—	+0·2	+1·8	+1·1
Textiles	−1·7	−2·3	+1·8	−1·9	−0·3	−2·1
Leather, leather goods and fur*	—	—	—	—	—	—
Clothing and footwear	−1·3	−1·3	−1·3	−0·2	−1·3	−0·8
Bricks, pottery, glass, cement, etc.	−0·8	−0·5	+2·8	+1·1	+0·7	+0·1
Timber, furniture, etc.	+1·8	−0·2	−0·2	+0·1	+1·0	−0·1
Paper, printing and publishing	+1·7	+2·4	+1·5	+2·2	+1·6	+2·3
Other manufacturing industries	+3·7	+2·0	+3·3	+2·5	+3·5	+2·2
Total manufacturing industries	+0·3	+0·7	+1·8	+0·8	+0·9	+0·7
Construction	+2·0	+0·7	+2·5	+2·8	+2·2	+1·6
Gas, electricity and water	+0·4	+0·1	+3·4	+1·5	+1·6	+0·6
Transport and communications	+0·1	−0·5	−0·9	—	−0·3	−0·3
Distributive trades	+3·2	+2·3	+2·2	+1·9	+2·8	+2·1
Insurance, banking and finance	+2·3	+2·9	+3·9	+3·4	+2·9	+3·1
Professional and scientific services	+2·7	+3·0	+3·5	+3·7	+3·0	+3·3
Miscellaneous services	+0·9	—	+3·4	+1·4	+1·9	+0·5
Public administration	+0·2	−0·2	+1·6	+1·9	+0·8	+0·6
Total service industries (excluding construction)	+1·6	+1·1	+2·2	+1·9	+1·9	+1·4
Total all industries and services	+0·7	+0·7	+1·4	+1·2	+1·0	+0·9

* No meaningful growth rates can be calculated for this Order.
Source Ministry of Labour.

APPENDIX

21b Annual Male Employment Percentage Changes by Industrial Orders: 1953–63

Order	1953–59		1959–63		1953–63	
	East Midlands	Great Britain	East Midlands	Great Britain	East Midlands	Great Britain
Agriculture, forestry and fishing	−3·1	−2·4	−4·0	−4·2	−3·4	−3·1
Mining and quarrying	−0·2	−1·1	−2·8	−4·9	−1·2	−2·6
Total extractive industries	−0·9	−1·6	−3·1	−4·6	−1·8	−2·8
Food, drink and tobacco	+1·1	+1·0	+3·4	+1·1	+2·0	+1·0
Chemicals and allied industries	+1·0	+2·0	+2·8	−0·2	+1·7	+1·1
Metal manufacture	+0·3	+0·2	+2·6	+0·8	+1·2	+0·4
Engineering, electrical goods and metal goods	+1·8	+1·8	+3·0	+2·5	+2·3	+2·1
Shipbuilding and marine engineering*	—	—	—	—	—	—
Vehicles	+2·8	+1·6	+0·4	+0·2	+1·8	+1·1
Textiles	−1·4	−1·3	+2·3	−0·7	—	−1·0
Leather, leather goods and fur*	—	—	—	—	—	—
Clothing and footwear	−1·3	−1·3	−2·9	−0·5	−2·0	−1·0
Bricks, pottery, glass, cement, etc.	−0·9	−0·2	+3·3	+1·4	+0·7	+0·4
Timber, furniture, etc.	+0·9	−0·4	+0·6	+0·4	+0·8	−0·1
Paper, printing and publishing	+2·1	+2·7	+2·0	+2·8	+2·1	+2·6
Other manufacturing industries*	—	—	—	—	—	—
Total manufacturing industries	+0·8	+1·0	+1·9	+1·0	+1·2	+1·0
Construction	+1·9	+0·5	+2·4	+2·7	+2·1	+1·4
Gas, electricity and water	+0·4	−0·1	+3·1	+1·2	+1·5	+0·4
Transport and communications	+0·2	−0·6	−1·1	−0·2	−0·3	−0·4
Distributive trades	+2·6	+1·7	+1·6	+1·3	+2·3	+1·5
Insurance, banking and finance	+1·4	+2·2	+2·0	+2·2	+1·6	+2·2
Professional and scientific services	+2·9	+2·7	+3·0	+3·7	+3·0	+3·1
Miscellaneous services	+2·3	+0·3	+4·5	+2·8	+3·2	+1·3
Public administration	−0·6	−0·6	+0·6	+1·5	−0·1	+0·3
Total service industries (excluding construction)	+1·2	+0·5	+1·6	+1·5	+1·3	+0·9
Total all industries and services	+0·7	+0·5	+0·9	+0·9	+0·8	+0·8

* No meaningful growth rates can be calculated for this Order.

Source Ministry of Labour.

APPENDIX

21c Annual Female Employment Percentage Changes by Industrial Orders: 1953–63

Order	1953–59		1959–63		1953–63	
	East Midlands	Great Britain	East Midlands	Great Britain	East Midlands	Great Britain
Agriculture, forestry and fishing*	—	—	—	—	—	—
Mining and quarrying*	—	—	—	—	—	—
Total extractive industries	−0·7	−0·6	+0·9	−0·5	−0·1	−0·5
Food, drink and tobacco	+3·7	+1·1	+2·1	+0·4	+3·1	+0·9
Chemicals and allied industries*	—	—	—	—	—	—
Metal manufacture*	—	—	—	—	—	—
Engineering, electrical goods and metal goods	+0·4	+1·8	+5·3	+2·7	+2·3	+2·2
Shipbuilding and marine engineering*	—	—	—	—	—	—
Vehicles*	—	—	—	—	—	—
Textiles	−1·9	−3·0	+1·5	−3·0	−0·6	−3·0
Leather, leather goods and fur*	—	—	—	—	—	—
Clothing and footwear	−1·3	−1·3	−0·3	—	−0·9	−0·8
Bricks, pottery, glass, cement, etc *	—	—	—	—	—	—
Timber, furniture, etc *	—	—	—	—	—	—
Paper, printing and publishing*	—	—	—	—	—	—
Other manufacturing industries*	—	—	—	—	—	—
Total manufacturing industries	−0·6	—	+1·6	+0·4	+0·3	+0·2
Construction*	—	—	—	—	—	—
Gas, electricity and water*	—	—	—	—	—	—
Transport and communications	−0·6	+0·1	—	+1·0	−0·4	+0·4
Distributive trades	+3·6	+2·9	+2·9	+2·5	+3·3	+2·7
Insurance, banking and finance*	—	—	—	—	—	—
Professional and scientific services	+2·6	+3·2	+3·7	+3·7	+3·0	+3·4
Miscellaneous services	+0·1	−0·2	+2·6	+0·3	+1·1	—
Public administration	+2·5	+0·7	+5·6	+3·0	+3·6	+1·6
Total service industries (excluding construction)	+2·1	+1·8	+3·2	+2·4	+2·5	+2·0
Total all industries and services	+0·7	+1·1	+2·4	+1·7	+1·4	+1·3

* *No meaningful growth rates can be calculated for this Order.*

Source Ministry of Labour.

APPENDIX

22c

Female Activity Rates for Broad Age Groups, 1953–64*

Year	Aged 15–24		Aged 25–44		Aged 45–59		Aged 60 and over	
	North Midland	**Great Britain**	North Midland	**Great Britain**	North Midland	**Great Britain**	North Midland	**Great Britain**
1953	72·3	**72·1**	34·0	**38·1**	34·0	**34·8**	6·6	**7·2**
1954	72·8	**73·0**	34·6	**38·4**	34·3	**38·2**	6·9	**7·3**
1955	70·3	**73·2**	36·4	**40·8**	35·2	**37·3**	7·7	**7·8**
1956	70·0	**73·0**	36·7	**40·8**	37·0	**38·8**	8·2	**8·5**
1957	70·5	**72·4**	36·4	**40·9**	37·1	**38·8**	8·3	**8·8**
1958	69·2	**70·8**	36·1	**40·3**	36·9	**40·3**	8·5	**8·8**
1959	66·5	**68·4**	36·8	**40·7**	37·3	**40·4**	7·8	**8·8**
1960	66·7	**69·7**	36·5	**41·8**	36·6	**42·0**	8·5	**9·1**
1961 †	69·6	**68·8**	38·4	**42·2**	40·1	**43·2**	8·6	**8·2**
1962 †	66·1	**67·1**	38·5	**42·4**	41·7	**44·7**	9·1	**9·3**
1963 †	66·9	**67·1**	38·4	**42·0**	40·6	**44·6**	8·8	**8·6**
1964 †	63·8	**68·5**	39·2	**42·8**	42·7	**45·8**	9·3	**9·8**

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* Employees at mid-year expressed as a percentage of the home population aged 15 years and over.

† Rates for 1961–64 are based on revised figures of home population and are not therefore strictly comparable with those for earlier years.

Source Ministry of Labour.

APPENDIX

23 Average Monthly Rates of Unemployment in North Midland and Great Britain, 1953–65*

per cent

Year	North Midland	**Great Britain**
1953	0·8	**1·6**
1954	0·8	**1·3**
1955	0·5	**1·1**
1956	0·6	**1·2**
1957	0·9	**1·4**
1958	1·8	**2·1**
1959	1·5	**2·2**
1960	1·0	**1·6**
1961	1·0	**1·5**
1962	1·4	**2·0**
1963	1·9	**2·5**
1964	1·1	**1·6**
1965	1·0	**1·4**

* The unemployment rates given are the annual averages of the monthly figures of total unemployment (including persons temporarily stopped) expressed as a percentage of estimated numbers of employees (employed and unemployed) at mid-year.

Source Ministry of Labour.

APPENDIX

24 Migration of Employees: Analysis of Total Numbers Gained and Lost by North Midland from 1954–55 to 1963–64

Thousands

	Males			Females		
	Received from	Lost to	Net gain (+) or loss (—) by migration	Received from	Lost to	Net gain (+) or loss (—) by migration
South East England	122·3	136·5	—14·2	53·6	69·2	—15·6
South Western	14·7	14·8	— 0·1	6·7	8·6	— 1·9
Midland	62·7	65·2	— 2·5	23·5	23·2	+ 0·3
East and West Ridings	65·2	60·2	+ 5·0	28·9	21·6	+ 5·0
North Western	38·9	32·5	+ 6·3	14·1	12·7	+ 1·4
Northern	21·7	13·5	+ 8·2	6·3	5·3	+ 1·0
Scotland	19·7	10·0	+ 9·7	7·6	3·6	+ 4·0
Wales	8·8	7·0	+ 1·8	5·1	4·9	+ 0·2
Totals	353·9	339·7	+14·2	143·5	149·1	— 5·6

Source The estimates are derived from a sample of National Insurance cards which are exchanged in June each year. If a card is exchanged in a region other than the one in which it was issued there is a presumption that the employee moved from one region to another. This [illegible] only 1% of all NI cards

APPENDIX

25

Estimated Number of Employees (employed and unemployed) in each Sub-Region, 1963

Thousands analysed by industry and shown as a percentage of the total†

Industrial Order	Notts./Derbys.		Leicester		Northants.		Eastern Lowlands		East Midlands	
	'000	%	'000	%	'000	%	'000	%	'000	%
Agriculture, forestry and fishing	8·7	1·3	5·1	1·6	4·2	2 4	24·1	15·4	43·1	3·1
Mining and quarrying	96·2	13·2	15 8	4·9	*	*	*	*	114·9	8·3
Food, drink and tobacco	24·9	3·4	7·1	2·2	5·3	3·1	8·2	5·2	45 5	3·3
Chemicals and allied industries	15·5	2·1	*	*	2·8	1·8	*	*	21·2	1·6
Metal manufacture	25·5	3·5	2·7	0·8	13·4	7·8	*	*	43·7	3·2
Engineering and electrical goods	52 8	7·2	46·3	14·9	14·8	8·6	17 4	11·1	133·3	9·7
Shipbuilding and marine engineering	*	*	*	*	*	*	*	*	*	*
Vehicles	41·2	5·7	6·4	2·0	3·7	2·1	3·5	2·2	54·8	4 0
Metal goods not elsewhere specified	12·3	1·7	5 0	1·5	*	*	*	*	16 1	1·4
Textiles	67·5	9·3	50·4	15·8	*	*	*	*	118 9	8 6
Leather, leather goods and fur	*	*	*	*	3·3	2·0	*	*	4 6	0 4
Clothing and footwear	20·2	2·8	25·3	7·6	35·0	20·4	*	*	82·2	6·0
Bricks, pottery, glass, cement, etc.	12·6	1·7	7·4	2·3	*	*	*	*	22·3	1·6
Timber, furniture, etc.	8·5	1·2	3·1	1·0	*	*	*	*	16·3	1·1
Paper, printing and publishing	11·4	1 6	6·9	2·1	3·8	2·1	*	*	24·0	1·7
Other manufacturing industries	2·9	0·4	7·6	2·3	*	*	*	*	14·2	1·0
Total Manufacturing Industries	295·2	40·7	173·1	53·4	86·2	51·4	42·3	26·9	599·8	43·6
Construction	45·8	6·3	21 4	6·6	12·5	7·3	11·4	7·2	90 6	6·6
Gas, electricity and water	12·7	1·7	4·6	1·4	2·7	1·6	*	*	22·4	1·6
Transport and communications	42·8	5·9	11·9	3·7	9·5	4·9	9·4	8·0	72·6	5·2
Distributive trades	75·9	10·4	34·0	10·5	18·9	11·0	22·7	14·5	151·5	11·0
Insurance, banking and finance	9·9	1·4	4·5	1·4	*	*	*	*	18·0	1·4
Professional and scientific services	80·5	8·3	25·8	7·9	13·3	7·8	15·5	10·0	116·2	8·3
Miscellaneous services	44·8	6·1	17·8	5 6	11·4	6·8	13·0	9·3	86·6	6·3
Public administration and defence	33·9	4·7	10·2	3·2	7·7	4·5	12·5	9·0	84·3	4·7
Total Other Industries and Services	280·3	38·5	108·8	33 6	65·0	37·9	77·9	49·8	631·9	38·5
Grand Total	729·0	100 0	324·0	100 0	171·5	100·0	157·1	100·0	1380·8	100 0

* The figure is too small to be given within acceptable margins of error.

† The estimates have been obtained by aggregating figures for individual Employment Exchange areas, which cannot be as fully corrected as those for regions. The sub-region figures are therefore approximate only.

Source Ministry of Labour.

APPENDIX

26

Percentage Changes in Numbers of Employees (Employed and Unemployed), 1959–63*

Industrial Order	Notts./Derbys.	Leicester	Northants.	Eastern Lowlands	**East Midlands**
Agriculture, forestry and fishing	−10	−11	†	−15	**−13**
Mining and quarrying	−9	−17	†	†	**−10**
Food, drink and tobacco	+7	+22	+24	+7	**+11**
Chemicals and allied industries	+8	†	†	†	**+15**
Metal manufacture	+14	†	+14	†	**+12**
Engineering and electrical goods	+7	+26	+16	+7	**+14**
Shipbuilding and marine engineering	†	†	†	†	**†**
Vehicles	+1	−12	†	†	**+½**
Metal goods not elsewhere specified	+19	†	†	†	**+20**
Textiles	+8	+6	†	†	**+7**
Leather, leather goods and fur	†	†	†	†	**†**
Clothing and footwear	+9	−14	−6	†	**−5**
Bricks, pottery, glass, cement, etc.	+13	+9	†	†	**+11**
Timber, furniture, etc.	−2	†	†	†	**−1½**
Paper, printing and publishing	+5	+7	†	†	**+6**
Other manufacturing industries	†	+20	†	†	**+13**
Total Manufacturing Industries	+8	+8	+4½	+8	**+7**
Construction	+2	+22	+20	+21	**+11**
Gas, electricity and water	+15	†	†	†	**+14**
Transport and communications	−4½	−2	+3½	−9	**−4**
Distributive trades	+7	+5	+21	+13	**+9**
Insurance, banking and finance	+11	†	†	†	**+16**
Professional and scientific services	+13	+17	+10	+21	**+14**
Miscellaneous services	+18	+16	+9	+3	**+14**
Public administration and defence	+8	+4	+7	+1½	**+6**
Total Other Industries and Services	+8	+10	+12	+7	**+9**
Grand Total	+4½	+7	+8	+4	**+6**

*Percentage changes are rounded to the nearest whole number (but if under 5% rounded to nearest half).

† The figures cannot be calculated within acceptable margins of error.

Source Ministry of Labour.

27

Distribution of Industry Groups in East Midlands and Great Britain, 1963

Industry	No. of employees in employment '000	Proportion * of Total No. of Employees in Employment	
	East Midlands		Great Britain
Manufacturing Industries	593·6	43·5	38·0
Engineering, electrical and metal goods	150·9	11·1	11·8
Textiles	117·8	8·8	3·4
Clothing and footwear	81·4	8·0	2·4
Vehicles	54·3	4·0	3·8
Food, drink and tobacco	44·8	3·3	3·6
Metal manufacture	43·1	3·2	2·6
Paper, printing and publishing	23·9	1·8	2·8
Bricks, pottery, glass, cement, etc.	22·2	1·6	1·5
Chemicals and allied industries	20·8	1·5	2·3
Timber, furniture, etc.	18·2	1·1	1·2
Other manufacturing industries	14·0	1·0	1·4
Leather, leather goods and fur	4·8	0·4	0·3
Shipbuilding and marine engineering	†	†	0·9
Service Industries (excluding Construction)	528·4	38·6	48·7
Distributive trades	149·5	11·0	12·9
Professional and scientific services	114·7	8·4	9·8
Miscellaneous services	85·3	8·3	9·1
Transport and communications	72·1	5·3	7·5
Public administration	83·5	4·7	5·9
Gas, electricity and water	22·3	1·8	1·8
Insurance, banking and finance	19·0	1·4	2·7
Extractive Industries	156·8	11·5	5·5
Mining and quarrying	114·5	8·4	3·0
Agriculture, forestry and fishing	42·3	3·1	2·5
Construction	87·8	6·4	6·8
Grand Total	1,364·8	100·0	100·0

* As each proportion has been rounded to one place of decimals, and some are omitted, the totals are not necessarily the sum of their components.

† The figure is too small to be given within acceptable margins of error.

Source Ministry of Labour.

APPENDIX

28

Percentage Changes among Employees in Employment in East Midlands and Great Britain, 1959–63[*]

Industry	East Midlands	Great Britain
Manufacturing Industries	+7	+3
Engineering, electrical and metal goods	+15	+11
Textiles	+7	−8
Clothing and footwear	−5	−½
Vehicles	—	+½
Food, drink and tobacco	+12	+3
Metal manufacture	+12	+3
Paper, printing and publishing	+6	+9
Bricks, pottery, glass, cement, etc.	+12	+4½
Chemicals and allied industry	+14	−1
Timber, furniture, etc.	−½	+½
Other manufacturing industries	+14	+10
Leather, leather goods and fur	†	−2
Shipbuilding and marine engineering	†	−21
Service Industries (excluding Construction)	+9	+8
Distributive trades	+9	+8
Professional and scientific services	+15	+16
Miscellaneous services	+14	+8
Transport and communications	−3½	—
Public administration	+7	+8
Gas, electricity and water	+14	+6
Insurance, banking and finance	+17	+14
Extractive Industries	−11	−16
Mining and quarrying	−10	−18
Agriculture, forestry and fishing	−12	−14
Construction	+10	+12
Grand Total	+6	+4½

[*] Percentage changes are rounded to the nearest whole number (but if under 5% rounded to nearest half).

† The figure cannot be calculated within acceptable margins of error.

Source Ministry of Labour.

APPENDIX

27

Distribution of Industry Groups in East Midlands and Great Britain, 1963

Industry	No. of employees in employment '000	Proportion * of Total No. of Employees in Employment	
	East Midlands		Great Britain
Manufacturing Industries	593·6	43·8	38·0
Engineering, electrical and metal goods	150·6	11·1	11·8
Textiles	117·8	8·6	3·4
Clothing and footwear	81·4	6·0	2·4
Vehicles	54·3	4·0	3·8
Food, drink and tobacco	44·6	3·3	3·8
Metal manufacture	43·1	3·2	2·6
Paper, printing and publishing	23·8	1·6	2·8
Bricks, pottery, glass, cement, etc.	22·2	1·6	1·5
Chemicals and allied industries	20·8	1·5	2·3
Timber, furniture, etc.	18·2	1·1	1·2
Other manufacturing industries	14·0	1·0	1·4
Leather, leather goods and fur	4·6	0·4	0·3
Shipbuilding and marine engineering	†	†	0·9
Service Industries (excluding Construction)	526·4	36·6	49·7
Distributive trades	149·8	11·0	12·9
Professional and scientific services	114·7	8·4	9·8
Miscellaneous services	88·3	8·3	9·1
Transport and communications	72·1	5·3	7·5
Public administration	83·8	4·7	5·9
Gas, electricity and water	22·3	1·6	1·8
Insurance, banking and finance	18·0	1·4	2·7
Extractive Industries	156·6	11·5	5·5
Mining and quarrying	114·8	8·4	3·0
Agriculture, forestry and fishing	42·3	3·1	2·5
Construction	87·8	6·4	6·8
Grand Total	1,364·8	100·0	100·0

* As each proportion has been rounded to one place of decimals, and some are omitted, the totals are not necessarily the sum of their components.

† The figure is too small to be given within acceptable margins of error.

Source Ministry of Labour.

APPENDIX

28

Percentage Changes among Employees in Employment in East Midlands and Great Britain, 1959–63*

Industry	East Midlands	Great Britain
Manufacturing Industries ..	+7	+3
Engineering, electrical and metal goods ..	+15	+11
Textiles ..	+7	−8
Clothing and footwear ..	−5	−½
Vehicles ..	—	+½
Food, drink and tobacco ..	+12	+3
Metal manufacture ..	+12	+3
Paper, printing and publishing ..	+6	+9
Bricks, pottery, glass, cement, etc. ..	+12	+4½
Chemicals and allied industry ..	+14	−1
Timber, furniture, etc ..	−½	+½
Other manufacturing industries ..	+14	+10
Leather, leather goods and fur ..	†	−2
Shipbuilding and marine engineering ..	†	−21
Service Industries (excluding Construction) ..	+9	+8
Distributive trades ..	+9	+8
Professional and scientific services ..	+15	+16
Miscellaneous services ..	+14	+6
Transport and communications ..	−3½	—
Public administration ..	+7	+8
Gas, electricity and water ..	+14	+6
Insurance, banking and finance ..	+17	+14
Extractive Industries ..	−11	−16
Mining and quarrying ..	−10	−18
Agriculture, forestry and fishing ..	−12	−14
Construction ..	+10	+12
Grand Total ..	+6	+4½

* Percentage changes are rounded to the nearest whole number (but if under 5% rounded to nearest half).

† The figure cannot be calculated within acceptable margins of error.

Source Ministry of Labour.

APPENDIX

29 Net Output per Head for Significant Manufacturing Industries in the East Midlands*

SIC Order MLH	Industry	Net Output per Head for U.K. 1958 £	Net Output per Head in MLH above (+) or below (−) that of Order	Net Output per Head above (+) or below (−) that of Total Manufacturing
III	**Food, Drink and Tobacco**	1,263		
212	Bread and flour confectionery	820	−	−
218	Fruit and vegetable products	923	−	−
240	Tobacco	1,910	+	+
IV	**Chemicals and Allied Industries**	1,658		
272	Toilet preparations	1,849	+	+
	Pharmaceuticals	1,562	−	+
V	**Metal Manufacture**	1,213		
311	Iron and steel (general)	1,347	+	+
312	Steel tubes	1,308	+	+
313	Iron castings	875	−	−
VI	**Engineering and Electrical**	1,005		
VIII	**Vehicles**			
IX	**Metal Goods N.E.S.**†			
332	Machine tools	1,065	+	+
334	Industrial engines	945	−	−
335	Textile machinery	877	−	−
336	Contractors plant, etc.	1,021	+	+
337	Mechanical handling equipment	1,088	+	+
339	Other machinery	1,100	+	+
341	Industrial plant and steel work	1,191	+	+
349	Mechanical engineering n.e.s.	995	+	−
353	Telegraph and telephone apparatus	785	−	−
364	Radio and electronic apparatus	853	−	−
361	Electrical machinery	1,042	+	+
369	Other electrical goods	922	−	−
381	Motor vehicle manufacturing	1,204	+	+
382	Motor cycle and pedal cycle manufacturing	798	−	−
383	Aircraft manufacturing and repairs	1,038	+	+
385	Railway carriages and wagons, etc.	773	−	−
399	Metal industries n.e.s.	914	−	−
X	**Textiles**	723		
411	Production of man-made fibres	1,344	+	+
417	Hosiery and other knitted goods	728	+	−
418	Lace	732	+	−
421	Narrow fabrics	706	−	−
423	Textile finishing	761	+	−
XII	**Clothing and Footwear**	583		
442	Men's and boys' outerwear	523	−	−
445	Dresses, lingerie and infants' wear	535	−	−
450	Footwear	700	+	−
XIII	**Bricks, etc.**	975		
461	Bricks, fireclay, refractory goods	889	−	−
469	Abrasives, building materials n.e.s.	1,055	+	+
XIV	**Timber, etc.**	835		
471	Timber	855	+	−
XV	**Paper, Printing, Publishing**	1,055		
482	Cardboard boxes, etc.	857	−	−
489	Other printing and publishing	919	−	−
XVI	**Other Manufacturing Industries**	918		
491	Rubber	954	+	−
III–XVI	**Total Manufacturing**	1,009		

* 'Significant' industries are here defined as those which employed more than 5,000 in the Region in 1963.

† N.E.S. abbreviates for 'not elsewhere specified'.

Source Census of Production 1958

APPENDIX

30 Area of Industrial Building Completed, 1960–65*

Contribution of each region to the area of buildings completed for each industry group. New Standard Regions

Percentages of regional totals

	SIC Order	Northern	Yorkshire and Humberside	East Midlands	East Anglia	South East	South Western	Wales	West Midlands	North Western	Scotland	**Great Britain**	**Great Britain million sq. ft.**
III	Food, drink and tobacco	4·5	9·2	**4·5**	6·5	22·4	9·5	3·7	6·3	15·9	15·5	**100**	**23·5**
IV	Chemical and allied industries ..	10·0	9·1	**3·1**	4·2	24·0	1·9	14·0	4·2	24·5	5·0	**100**	**16·0**
V	Metal manufacture	13·4	19·4	**5·5**	0·6	5·1	1·4	25·0	15·7	5·6	8·3	**100**	**30·4**
VI & VII	Engineering and electrical goods: shipbuilding and marine engineering	6·6	5·6	**4·3**	3·6	33·2	6·2	3·9	9·4	13·9	11·1	**100**	**55·7**
VIII	Vehicles	2·1	3·4	**4·0**	1·6	25·9	7·6	6·7	18·2	17·1	13·4	**100**	**24·2**
IX	Metal goods n.e.s.	3·1	16·4	**3·4**	4·0	20·4	3·2	7·6	25·9	9·7	6·3	**100**	**19·1**
X	Textiles	2·5	27·2	**13·3**	1·2	6·7	4·5	5·1	7·1	16·4	16·0	**100**	**12·3**
XI & XII	Leather, leather goods and fur; clothing and footwear .. .	6·6	6·3	**6·6**	2·6	25·7	13·6	3·7	3·5	13·6	12·6	**100**	**6·9**
XIII	Bricks, pottery, glass, cement, etc.	9·6	9·5	**9·6**	2·1	16·7	6·2	4·1	17·7	16·0	7·5	**100**	**16·9**
XIV	Timber, furniture, etc.	6·1	7·9	**2·9**	4·5	44·6	6·2	3·7	6·6	7·5	7·6	**100**	**10·6**
XV	Paper, printing and publishing .	6·6	7·9	**4·2**	4·2	35·5	6·2	4·1	7·3	17·0	7·0	**100**	**19·1**
XVI	Other manufacturing industries ..	6·5	3·2	**2·1**	6·6	36·4	6·2	3·6	5·4	20·1	10·7	**100**	**11·2**
	Total manufacturing industries ..	7·2	10·0	**5·1**	3·3	24·7	5·6	7·6	11·5	14·4	10·2	**100**	**244·6**

* The figures relate to schemes mainly over 5,000 sq. ft. The industrial coverage of approvals was changed in 1959–60 and the definition of industrial floor space changed in some regions in 1960 and 1961.

Source Board of Trade.

APPENDIX 30 continued

Contribution of each industry group to the area of buildings completed for each region.

Percentages of regional totals

	SIC Order	Northern	Yorkshire and Humberside	East Midlands	East Anglia	South East	South Western	Wales	West Midlands	North Western	Scotland	Great Britain million sq. ft.
III	Food, drink and tobacco ..	6·0	8·6	8·4	16·7	8·7	15·7	4·8	7·0	10·6	14·8	8·8
IV	Chemical and allied industries	10·1	6·7	4·5	9·5	7·1	2·4	13·2	2·7	12·5	3·6	7·3
V	Metal manufactures	22·9	24·1	13·5	2·1	2·6	3·0	39·6	17·0	4·8	10·1	12·4
VI & VII	Engineering and electrical goods; shipbuilding and marine engineering	27·0	13·3	19·2	25·0	30·5	24·6	11·4	16·6	22·0	24·7	22·8
VIII	Vehicles	2·9	3·4	7·8	4·8	10·4	13·1	8·4	16·8	11·7	13·0	9·9
IX	Metal goods n.e.s.	2·6	10·8	4·4	8·0	5·4	3·7	6·3	14·9	4·4	4·0	8·6
X	Textiles	1·6	13·7	13·1	1·9	1·4	4·0	3·2	3·1	5·8	7·9	9·0
XI & XII	Leather, leather goods and fur; clothing and footwear	2·5	2·3	5·4	2·2	2·9	6·6	1·3	0·8	2·7	3·5	2·8
XIII	Bricks, pottery, glass, cement, etc.	9·0	5·9	13·0	4·4	5·2	7·4	3·6	10·5	7·6	5·1	8·9
XIV	Timber, furniture, etc.	3·7	3·4	2·4	5·9	7·9	6·2	2·0	2·5	2·3	3·3	4·3
XV	Paper, printing and publishing	7·1	6·2	6·4	9·6	11·2	8·4	4·1	5·0	9·2	5·4	3·8
XVI	Other manufacturing industries	4·1	1·4	1·9	7·7	6·7	4·9	2·3	2·1	5·4	4·6	4·8
	Total manufacturing industries	100	100	100	100	100	100	100	100	100	100	100
	Total manufacturing industries, million sq. ft.	17·7	24·4	12·5	8·1	60·5	14·1	19·2	28·1	35·2	24·9	244·8

Source Board of Trade.

APPENDIX

31

Shops and Retail Trade: Great Britain, 1961

Area	Population Served		Estimated Sales		Turnover per Head	
	Density: persons per 1.000 acres	Average No. of Persons per Establishment	Average Establishment £'000	Average per person engaged £	£	As ratio of Great Britain
Great Britain	**908**	**88**	**19·4**	**3,534**	**174·9**	**100·0**
Scotland	272	97	16·3	3,410	168·8	98·5
Northern Region	680	95	15·4	3,405	183·1	93·3
East and West Ridings Region	1,844	80	13·1	3.345	164·2	93·9
North Western Region	3,329	72	11·8	3.290	164·0	93·8
Wales	515	83	12·6	3.414	152·4	87·1
North Midland Region	901	82	13·5	3.438	164·5	94·1
Midland Region	1.478	90	14·8	3,634	184·5	94·1
South Western Region	583	88	15·0	3.323	170·5	97·5
South East England	1,798	98	19·0	3,771	194·6	111·3

Source Census of Distribution 1961, data as given in 'The Regional Pattern of Retailing', *Board of Trade Journal*, 30th April 1965

APPENDIX

32 Shops and Retail Trade: East Midlands Towns with Population of 50,000 or more, 1961

Town	Population	Establishments	Turnover £'000	Persons Engaged
Nottingham	311,646			
Town as a whole		4,064	69,644	20,108
Central shopping area		659	33.050	9,194
Leicester	273.288			
Town as a whole		3,842	64,423	17,979
Central shopping area		422	25.855	8,900
Derby	132,325			
Town as a whole		1,981	35,507	9,701
Central shopping area		366	17.220	4,475
Northampton	106,361			
Town as a whole		1,487	24.371	8.985
Central shopping area		291	12,217	3,160
Lincoln	77,065			
Town as a whole		898	18,092	4,992
Central shopping area		180	8.825	2,394
Chesterfield	87,833			
Town as a whole		823	15.881	4,781
Central shopping area		206	9.122	2,525
Beeston and Stapleford	58,720			
Town as a whole		482	5.589	1,865
Central shopping area		99	2,102	530
Mansfield	53,222			
Town as a whole		887	14,093	3,732
Central shopping area		236	8,089	2,003

Source Board of Trade, *Census of Distribution and other services, 1961*. Part 5, Area Tables, North Midland Region.

APPENDIX

33 East Midlands Region: Total Stock and Condition of Dwellings

Area	1961 Census Enumerated					1965				
	Total Dwellings	Dwellings with no Fixed Bath		Households Living at over 1½ Persons per Room		Total Number of Permanent Dwellings	Unfit Dwellings		Dwellings with Rateable Value not Exceeding £30	
	No	No	%	No.	%		No.	%	No.	%
East Midlands Region	**992,143**	**233,053**	**23·5**	**17,822**	**1·8**	**1,053,770**	**53,174**	**5·1**	**203,043**	**20·1**
Nottinghamshire–Derbyshire Sub-Region	538,492	124,495	23·1	10,120	1·8	571,651	27,499	4·8	127,194	22·9
Chesterfield District	75,558	17,403	23·0	1,245	1·5	79,525	3,387	4·3	19,555	25·2
Mansfield–Worksop District	75,717	15,364	20·3	1,488	2·0	80,537	2,447	3·0	25,360	32·1
Newark–Retford District	38,217	7,777	20·4	878	2·3	41,499	1,217	2·9	10,533	27·8
Erewash Valley District	23,928	5,927	24·8	375	1·8	25,145	673	2·7	9,475	38·8
Nottingham District	202,504	49,135	24·3	4,237	2·1	214,715	15,245	7·1	39,735	18·9
Derby District	102,868	22,708	22·1	1,588	1·5	108,785	4,204	3·9	15,031	14·2
High Derbyshire District	19,592	6,180	31·4	309	1·8	21,445	326	1·5	7,405	38·9
Leicester Sub-Region	209,812	48,448	23·1	3,275	1·5	222,775	11,954	5·4	27,452	12·5
Leicester District	154,970	33,078	21·3	2,430	1·5	163,217	10,728	6·8	14,384	8·9
Market Harborough District	10,835	3,055	28·2	181	1·5	12,324	174	1·4	2,635	23·2
Leicestershire–South Derbyshire Coalfield District	30,483	10,419	34·2	494	1·8	32,729	838	2·6	9,124	29·2
Hinckley District	13,524	1,896	14·0	190	1·4	14,505	214	1·5	1,309	9·3
Eastern Lowlands Sub-Region ..	116,297	32,903	28·3	2,467	2·1	124,388	5,287	4·3	28,320	27·5
Lincoln District	33,875	8,318	24·5	809	2·4	35,781	1,598	4·7	8,984	26·2
Kesteven District	31,785	8,851	27·2	538	2·0	34,170	1,297	3·8	7,029	31·4
Holland District	33,228	10,614	31·9	597	1·8	34,989	1,970	5·5	7,247	25·2
Melton–Oakham District	17,428	5,522	30·5	422	2·4	19,448	322	1·7	5,050	29·8
Northamptonshire Sub-Region	127,542	27,207	21·3	2,020	1·8	134,956	8,434	6·3	20,077	15·0
Northampton District	49,045	10,203	20·9	757	1·5	48,254	6,334	13·1	6,311	12·3
Kettering District	21,414	5,173	24·2	221	1·0	22,701	450	2·0	2,594	12·2
Wellingborough District	31,525	7,938	25·2	475	1·5	33,931	1,021	3·0	5,357	19·7
Corby New Town District	9,384	127	1·4	303	3·2	11,847	21	0·2	101	0·9
Daventry–Brackley District	15,174	3,786	23·3	254	1·8	16,223	808	3·3	4,514	28·1

Source 1961 Census and local authorities' returns

APPENDIX

34

East Midlands Region: Yearly Housing Completions, 1956–65

Year	Local Authorities and Housing Associations	Private Builders	Total
1956	11,400	9,300	20,700
1957	10,500	9,900	20,400
1958	7,500	9,600	17,100
1959	7,900	11,000	18,900
1960	7,600	12,300	19,900
1961	6,400	13,200	19,600
1962	6,800	13,300	20,100
1963	5,800	13,200	19,000
1964	6,800	16,100	22,900
1965	6,100	16,200	22,300
Total	76,800	124,100	200,900

Source Ministry of Housing and Local Government quarterly housing returns.

APPENDIX

35

East Midlands Region: House Completions, 1956–65

Area	Total Completions Jan. 1956–Dec. 1965					Annual Average Completions		
	Local Authorities and Housing Associations		Private Enterprise		Total	Local Authorities and Housing Associations	Private Enterprise	Total
	No	%	No.	%	No.	No	No.	No.
East Midlands Region	**76,741**	**39·2**	**124,199**	**61·8**	**200,940**	**7,674**	**12,420**	**20,094**
Nottinghamshire–Derbyshire Sub-Region	43,079	42·3	68,677	57·7	101,956	4,306	5,888	10,198
Chesterfield District	7,635	49·3	7,837	50·7	15,472	764	784	1,547
Mansfield–Worksop District	7,086	61·8	8,606	48·2	13,692	709	661	1,369
Newark–Retford District	4,883	51·7	4,379	48·3	9,082	468	438	906
Erewash Valley District	878	31·6	1,902	68·4	2,780	86	190	278
Nottingham District	14,980	38·8	23,583	61·2	38,543	1,496	2,358	3,854
Derby District	7,086	35·2	13,069	84·8	20,155	709	1,307	2,016
High Derbyshire District	751	33·3	1,501	66·7	2,252	75	150	225
Leicester Sub-Region	13,433	28·6	33,272	71·2	46,705	1,344	3,327	4,671
Leicester District	10,076	29·0	24,654	71·0	34,730	1,008	2,465	3,473
Market Harborough District	579	21·8	2,080	76·2	2,669	58	208	266
Leicestershire–South Derbyshire Coalfield District	2,248	35·4	4,094	84·6	6,342	225	409	634
Hinckley District	530	17·6	2,444	82·2	2,974	53	244	297
Eastern Lowlands Sub-Region	8,634	36·0	14,397	62·0	23,231	883	1,440	2,323
Lincoln District	2,915	38·7	4,624	61·3	7,539	291	462	754
Kesteven District	2,614	44·8	3,468	55·2	6,282	261	347	628
Holland District	1,915	34·7	3,596	65·3	5,611	192	360	551
Melton–Oakham District	1,190	30·5	2,709	69·5	3,899	119	271	390
Northamptonshire Sub-Region	11,395	39·2	17,653	60·8	29,048	1,139	1,785	2,905
Northampton District	1,894	19·6	7,790	80·4	9,684	169	779	966
Kettering District	1,299	33·6	2,539	86·2	3,838	130	254	383
Wellingborough District	2,159	34·3	4,134	65·7	6,293	216	413	629
Corby District	4,737	85·6	794	14·4	5,531	474	79	553
Daventry–Brackley District	1,306	35·3	2,396	64·7	3,702	131	240	370

Source Ministry of Housing and Local Government quarterly housing returns.

APPENDIX

36

Further Education Establishments: East Midlands Region

Local Education Authority	Name of College	Type	Course, subject or geographical area covered
Derbyshire	The High Peak College of Further Education (Buxton)	**L**	N W Derbyshire
	Chesterfield College of Technology	**A**	Chesterfield and district
	Clowne Technical College	**L**	Clowne and N E Derbyshire
	The South-East Derbyshire College of Further Education (comprises Ilkeston Branch and Heanor Branch—formerly Heanor Technical College)	**L**	Ilkeston and S E Derbyshire Heanor and S Derbyshire
	Chesterfield College of Art	**Art**	
	Broomfield Hall Farm Inst. (Morley)	**Ag.**	
Derby CB	Derby and District College of Technology	**A**	Derby City and the whole county for advanced subjects
	Normanton House (NNEB)	**NNTC**	Nursing
	Derby and District College of Art	**Art**	
Leicestershire	Coalville Mining and Technical College	**A**	Coalville and district
	Hinckley College of Further Education	**L**	Hinckley and district
	Loughborough Technical College	**A**	Loughborough and the whole county for advanced work
	Melton Mowbray College of Further Education	**L**	Melton Mowbray and E Leicestershire
	Loughborough College of Art	**Art**	
	Brooksby Hall Farm Inst., Melton Mowbray	**Ag.**	Leicestershire and Rutland
Leicester CB	Leicester Central Institute	**L**	Domestic science and allied subjects
	Leicester College of Further Education	**L**	Proposed new college to absorb and extend the work of the Central Institute. City and county students
	Leicester Regional College of Technology	**R**	City, county and Rutland for advanced work
	Leicester Domestic Science Training College	**L**	City and county
	Leicester School of Speech Therapy	**L**	
	Leicester. The Adult Education Centre	**L**	Range of classes—chiefly arts subjects. Mainly city students
	Leicester. Charles Keene College of Further Education	**L**	City and county students
	Leicester. College of Art	**Art**	
Lincs. Holland	Boston and District Technical Institute	**L**	Boston and county
Lincs. Kesteven	Grantham College of Further Education	**A**	Grantham and county
	Stamford College of Further Education	**L**	Stamford and district and Rutland
	Grantham, Caythorpe Court Farm Institute	**Ag.**	
Lincoln CB	Lincoln Technical College	**A**	City and district
Northamptonshire	Corby Technical College	**A**	Corby, north Northants. and part of Rutland. Whole of county for metallurgy
	Kettering Boot and Shoe Technical College	**L**	County
	Kettering Technical College	**L**	Kettering and district
	Rushden Boot and Shoe Technical College	**L**	Rushden and district
	Wellingborough Technical College	**L**	Wellingborough and district
	Moulton Institute of Agriculture	**Ag.**	

APPENDIX 36 continued

Northampton CB	Northampton College of Technology	**A**	City and district (including some students from N Beds. and Bucks.)
	Northampton School of Art	**Art**	
Nottinghamshire	Beeston College of Further Education	**L**	Beeston and district
	Bevercotes, Lound Hall Mining Training Centre	**L**	
	Mansfield County Folk College	**L**	
	West Nottinghamshire Technical College (Mansfield)	**A**	Mansfield and district, part of Derbyshire. (Mining centre)
	Newark Technical College	**A**	Newark and N E Notts.
	West Bridgford College of Further Education	**L**	Still at planning stage
	North Nottinghamshire College of Further Education	**A**	Worksop and district
	Arnold and Carlton College of Further Education	**L**	Arnold, Carlton and area N E of Nottingham
	Mansfield College of Art	**Art**	
	Brackenhurst Farm Institute (Southwell)	**Ag.**	
Nottingham CB	Nottingham. Boots College	**L**	Day release centre (specifically for Boots' own employees)
	Clarendon College of Further Education	**L**	Lower Level work, mostly women
	Nottingham Regional College of Technology	**R**	City and county, advanced work. Part of Derbyshire and Lincolnshire
	Nottingham Nursery Nurses' College	**NNTC**	Nursing
	People's College of Further Education	**L**	Lower Level work, mostly men
	Nottingham College of Art and Design	**Art**	
	Basford College of Further Education	**L**	Not yet built—first phase planned to open in 1989
Rutland	Nil		See Leicester, Lincs., Kesteven and Northamptonshire, Corby Technical College

A = Area College
L = Local College
R = Regional College
Art = Art School or College
NNTC = Nursery Nurses' Training Centre
Ag. = Agriculture

APPENDIX

37

Colleges of Education: East Midlands Region

College	Maintaining Body	Whether for Men or Women or both	Student numbers September 1965		Number of Day Students included in column 4	
			Men	Women	Men	Women
Derbyshire						
Bishop Lonsdale College of Education, Derby	Voluntary body (Church of England)	M & W	181	385	36	68
Matlock College of Education	Derbyshire Local Education Authority	M & W	171	386	63	40
Leicestershire						
City of Leicester College of Education‡	Leicester CB Local Education Authority	M & W	217	407	58	68
Leicester College of Domestic Science‡	Leicester CB Local Education Authority	Women	—	151	—	6
Loughborough Training College	Leicestershire Local Education Authority	M & W	727	128	23	16
Lincolnshire						
Bishop Grosseteste College, Lincoln	Voluntary body (Church of England)	Women	58*	397	58*	44
Kesteven College of Education, Stoke Rochford	Lincolnshire (Kesteven) Local Education Authority	M & W	165	291	63	83
Nottinghamshire						
Eaton Hall College of Education, Retford	Nottinghamshire Local Education Authority	Women	54*†	364	40*†	43
Nottingham College of Education	Nottingham CB Local Education Authority	M & W	383	536	114	118

* Some single sex colleges exceptionally admit immobile older students of the opposite sex who cannot conveniently attend any other college.

† This women's college also provides a special course for men who already possess certain qualifications in handicraft.

‡ These two colleges together with the Leicester College of Art which provides professional training for students with art qualifications are grouped under the University of Leicester Institute of Education. other colleges shown are grouped under the University of Nottingham Institute of Education.

Source Department of Education and Science

APPENDIX

38

Increase in Road Traffic Volumes between August 1954 and August 1964

In August each year the Ministry of Transport carries out a census at 100 points on Trunk and Class I roads, 11 of which are located in the North Midland Region. Similar details are not available for the slightly smaller East Midlands Region. The latest report available is that relating to the census in August 1964 and comparison is made with the results obtained in August 1954 which is used as the datum year. Although the number of census points is not very large, the results show the general trend.

An extract from the report is given below.

Traffic Census—August 1964 Comparison of Vehicle Miles of Travel with August 1954 Trunk and Class I Roads

Index Number (1954 = 100)

	Motor Vehicles								Pedal Cycles	Passenger Car Units
		Passenger				Goods				
	Total	Total	Motor Cycles	Cars	Buses and Coaches	Total	Light	Heavy		
England and Wales	209	224	107	256	89	169	175	164	52	184
North Midland	242	265	161	295	115	193	215	180	70	211

For the period August 1954 to August 1964, the North Midland Region had a greater increase in vehicle miles than any other English Region.

Maps in Pocket

General Reference Map of the East Midlands
Mineral Resources of the East Midlands
Power Resources of the East Midlands

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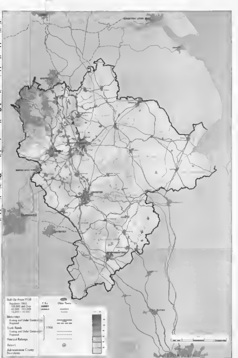
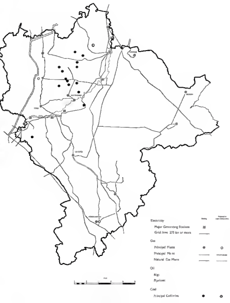
General Reference Map of the East Midlands

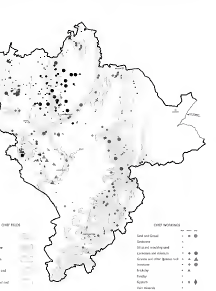


From The East Midlands Study

Power Resources of the East Midlands



Mineral Resources of the East Midlands



GENERALISED GEOLOGICAL SECTION FROM THE PEAK DISTRICT TO THE WASH